RTF-CCC1-CO

STATE OF COLORADO

Bill Owens, Governor
Jane E. Norton, Executive Director

Dedicated to protecting and improving the health and environment of the people of Colorado

HAZARDOUS MATERIALS AND WASTE MANAGEMENT DIVISION
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Colorado Department
of Public Health
and Environment

September 27, 2000

Mr. Joseph A Legare
Assistant Manager for Environment and Infrastructure
U.S. Department of Energy, Rocky Flats Field Office
10808 Highway 93, Unit A
Golden, CO 80403-8200

RE: Reconnaissance Level Characterization Report (RLCR) for Group C Facilities

Dear Mr. Legare:

The Colorado Department of Public Health and Environment, Hazardous Materials and Waste Management Division (the Division) has reviewed the RLCR for Group C Facilities, Revision 0 (dated August 9, 2000) received on September 13, 2000. The Group C RLCR includes T331A, T331, T771D, T750E, T903A, B331A and B987. The Division is hereby concurring with the Type 1 designation for T331A, T331, T771D, T750E, T903A, and B987 as identified in the Group C RLCR.

The Division does not concur at this time with the Type 1 designation for B331A because of concerns with the elevated radioactive material that was detected on the roof. The roof of B331A is identified in section 2.1, page 11, as being constructed of "Transite". Since this is not the same material, nor similar roof surface as the other trailers (which are metal roofs), the Division is concerned with the inference made that the elevated reading is due to Po-210 and not DOE-added material. Please provide specific information that identifies the nature of this radioactive material, and/or specific remediation to be performed, or re-classification as a Type 2 building.

In addition, the 4 cement footers under B331A need to be characterized for proper disposal. As such, please indicate the characterization to be performed and disposition of these cement footers. Table 5-1 also needs to be modified to include these footers as part of the Waste to be generated from B331A, as concrete waste.

If you have any questions regarding this correspondence please contact David Kruchek at (303) 692-3328.

Sincerely,

Steven H. Gunderson
RFCA Project Coordinator

cc: Steve Tower, FCG, RFFO
Tim Rehder, EPA
Tom Scott, KH
Dave Shelton, KH
Administrative Records Building 850

IA-A-000578

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CORRES. CONTROL
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AUTHORIZED CLASSIFIER SIGNATURE (U, NU)
Date: 08-14-00
N REPLY TO RF CC NO.:

ACTION ITEM STATUS:
❑ PARTIAL/OPEN
❑ CLOSED

LTR APPROVALS:
RFS; bcv
ORIG. & TYPIST INITIALS:
RFS; bcv
RF-46469 (Rev.1/99)

KAISER•HILL
COMPANY

st 14, 2000 00-RF-01885

Tower
Program Lead
RFFO

SMITTAL OF THE GROUP C FACILITIES RECONNAISSANCE LEVEL
ACTERIZATION REPORT – RTS-002-00

led for your review and approval is subject report for Group C Facilities. This Report cterizes the physical, chemical and radiological hazards associated with the Trailer, arizes the characterization activities, defines the Data Quality Objectives developed for this cterization, and presents the data quality assessment, verification and validation of results. l upon our results, Trailers 331A, 771D, 331, 750E, 903A, and Buildings 331A and 987 are ned to be Type 1 Facilities and can be disposed of as sanitary waste.

d greatly appreciate your review and comment by August 25. If you have any questions, nesitate to call me at extension 2093.

cott
Program Manager
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nd 1cc – S. Tower

erdeman - w/o Encl.

Kaiser-Hill Company, L.L.C.
Courier Address: Rocky Flats Environmental Technology Site, State Hwy. 93 and Cactus, Rocky Flats, CO 80007 ♦ 303.966.7000
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KAISER•HILL
COMPANY

August 14, 2000 00-RF-01885

Steve Tower
D&D Program Lead
DOE, RFFO

TRANSMITTAL OF THE GROUP C FACILITIES RECONNAISSANCE LEVEL CHARACTERIZATION REPORT – RTS-002-00

Provided for your review and approval is subject report for Group C Facilities. This Report characterizes the physical, chemical and radiological hazards associated with the Trailer, summarizes the characterization activities, defines the Data Quality Objectives developed for this characterization, and presents the data quality assessment, verification and validation of results. Based upon our results, Trailers 331A, 771D, 331, 750E, 903A, and Buildings 331A and 987 are confirmed to be Type 1 Facilities and can be disposed of as sanitary waste.

I would greatly appreciate your review and comment by August 25. If you have any questions, don't hesitate to call me at extension 2093.

Tom Scott
Senior Program Manager
D&D Programs

RTS:bv

Enclosure:
As Stated

Orig. and 1cc – S. Tower

cc:
Fred Gerdeman - w/o Encl.

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Rocky Flats Environmental Technology Site

RECONNAISSANCE LEVEL CHARACTERIZATION REPORT (RLCR)

GROUP C FACILITIES

REVISION 0

August 9, 2000

This report was approved by:

Tom Scott, Project Manager, KH D&D Advanced Planning — 8/9/00 Date

Jeff Stevens, Manager, Planning & Controls, 771 Project — 8/14/00 Date

Joseph Mahaffey, Manager, Radiological Engineering — 8-14-00 Date

for Doug Hiebert, K-H Safety & Industrial Hygiene — 8-14-00 Date

Steve Luker, Project Manager, Quality Assurance — 8/9/00 Date

REVIEWED FOR CLASSIFICATION/UCNI (U, DK)
By D. Mathiasmeier Sr Classif Analyst
Date 08-14-00
(and Appendices A-H)

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ABBREVIATIONS/ACRONYMS

ACM	Asbestos containing material
Be	Beryllium
CBDPP	Chronic Beryllium Disease Prevention Program
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CDPHE	Colorado Department of Public Health and the Environment
$DCGL_{EMC}$	Derived Concentration Guideline Level – elevated measurement comparison
$DCGL_W$	Derived Concentration Guideline Level – Wilcoxon Rank Sum Test
D&D	Decontamination and Decommissioning
DDCP	Decontamination and Decommissioning Characterization Protocol
DOE	U.S. Department of Energy
DPP	Decommissioning Program Plan
DQA	Data quality assessment
DQOs	Data quality objectives
EPA	U.S. Environmental Protection Agency
FDPM	Facility Disposition Program Manual
HVAC	Heating, ventilation, air conditioning
IHSS	Individual Hazardous Substance Site
IWCP	Integrated Work Control Package
K-H	Kaiser-Hill
LBP	Lead-based paint
LCS	Laboratory control samples
LLW	Low-level waste
LSDW	Life safety disaster warning
MARSSIM	Multi-Agency Radiation Survey and Site Investigation Manual
MDA	Minimum detectable activity
MDC	Minimum detectable concentration
NORM	Naturally occurring radioactive material
NRA	Non-Rad-Added Verification
OASIS	Oxford Alpha Spectroscopy Integrated System
OSHA	Occupational Safety and Health Administration
PAC	Potential area of concern
PARCC	Precision, accuracy, representativeness, comparability and completeness
PCBs	Polychlorinated biphenyls
PDS	Pre-demolition survey
QC	Quality Control
RCRA	Resource Conservation and Recovery Act
RFCA	Rocky Flats Cleanup Agreement
RFETS	Rocky Flats Environmental Technology Site
RFFO	Rocky Flats Field Office
RLC	Reconnaissance Level Characterization
RLCR	Reconnaissance Level Characterization Report
RSP	Radiological Safety Practices
SVOCs	Semi-volatile organic compounds
TRU	Transuranic
TSA	Total surface activity
VOCs	Volatile organic compounds

EXECUTIVE SUMMARY

A Reconnaissance Level Characterization (RLC) was performed to dispose of Group C Facilities (B331A, B987, T331A, T771D, T331, T750E and T903A) as waste. The RLC encompassed both radiological and chemical characterization. Because the structures were classified as MARSSIM Class 3 (RFCA Type 1) facilities, the RLC also implemented a Pre-Demolition (Final Status) Survey design to determine whether the structures can be released (off the site). Physical, chemical and radiological hazards were assessed based on historical reviews, process knowledge, and newly acquired RLC data.

Results indicate that no radioactive or chemical contamination exists and that no significant physical hazards are present. T331A, T750E, B331A and B987 contain non-friable ACM, and disposal of ACM will require notification of the State and the waste disposal facility. Based on the assessment, all seven facilities are confirmed to be Type I facilities and can be disposed of as sanitary waste.

1.0 INTRODUCTION

As part of the Rocky Flats Environmental Technology Site (RFETS) Closure Project, numerous facilities will be removed. Among these are the Group C Facilities (B331A, B987, T331A, T771D, T331, T750E and T903A). B331A is located in the western part of the Industrial Area near the corner of Fourth and Sage; B987 is located on the east end of the Industrial Area near the Northeast Perimeter Road; T331A is located in the western part of the Industrial Area just east of B331; T771D is located in the 280 yard; and T331, T750E and T903A are located in the Property Utilization and Disposal (PU&D) Yard. The Group C Facilities are shown in Exhibit 1-1. These facilities no longer support the RFETS mission and need to be removed to reduce Site infrastructure, risks and/or operating costs.

Before the facilities can be removed and disposed, hazards must be identified. Hazards will be used to plan compliant waste disposal. This document presents the existing physical, radiological and chemical hazards associated with the seven facilities, and classifies the facilities pursuant to the RFETS Decommissioning Program Plan (DPP; K-H, 1999). The hazards assessment is based on facility history and process knowledge, operating and spill records, and results of the reconnaissance level characterization (RLC). The RLC was conducted pursuant to the RFETS Decontamination and Decommissioning Characterization Protocol (DDCP; K-H 1999). The content and outline of this RLC report (RLCR) are consistent with the Kaiser-Hill (K-H) Facility Disposition Program Manual (FDPM; K-H, 1998).

1.1 Purpose

The purpose of this report is to communicate and document the results of the RLC effort. The purpose includes summarizing the data into a concise, usable format and interpreting the data for use in management decisions, primarily:

- Definition of individual hazards and overall risk associated with facility decontamination and decommissioning (D&D);
- Typing of facilities based on hazards identified; and
- Waste classification to enable compliant disposal.

1.2 Scope

This report covers physical, radiological and chemical characterization of Group C Facilities (B331A, B987, T331A, T771D, T331, T750E and T903A). Based on the hazards identified, the facilities were typed and assessed against waste disposal criteria. Environmental media beneath and surrounding the facilities are not within the scope of this characterization. Both facilities and environmental media will be dispositioned pursuant to the Rocky Flats Cleanup Agreement (RFCA).

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2.0 FACILITY DESCRIPTIONS AND OPERATING HISTORIES

2.1 Building 331A

Building 331A was constructed in approximately 1964. This building is located at Sage Avenue and Fourth Street, directly north of Building 335. The size of Building 331A is approximately 12' long by 10' wide and approximately 12' high. The facility has one double-door entry, which is approximately 5' wide by 10' high and located on the east end of the building. The facility has no windows. The walls are constructed of Transite® and corrugated metal, and the roof is constructed of Transite®. The roof of the building slopes to the north for drainage. The building itself has settled to the northwest. The building has concrete caisson/cable anchor tie-downs, one in each corner of the building. The floor is 3/4" rock/gravel. The base of the building is a fabricated metal framework covered with sheet metal approximately 4' high. The base looks as though it was designed to raise the height of the building's original design by approximately 4'. At the roof height there are two 4" X 4" X 14' wood timbers, which were probably used to lift the building while the base section was installed. The building presently has no lights or electrical power, but there is an 110-Volt light switch inside the door (i.e., the building had lights and/or some kind of electrical device some time in the past). Building 331A does not have any kind of building heating system. There is a 1" water line on the northwest corner of the building leading up to the roof. At one time, the line was connected to a fire sprinkler head and was used for training purposes.

The facility was used for storage of fire extinguishers and other equipment by the Fire Station and the Fire Station Training Department. Building 331A is presently totally empty and has not been used for approximately one year. The building is located on three Individual Hazardous Substance Sites (IHSSs; IHSS 134-North, IHSS 128, and IHSS 171).

2.2 Building 987

Building 987 was constructed in approximately 1960. This building is located southeast of Building 993, near the Bunker Storage. The building has a poured concrete footing/foundation/floor with a 6" raised concrete base for the cinderblock wall construction (the entry door does not have this 6" raised concrete base). The building is approximately 9' 4" long by 7' 4" wide and approximately 9' high. The facility has one door entry, which is located on the southwest corner of the building. The facility has one 28" x 28" glass-block window (16 7" x 7" x 4" thick glass blocks) on the north wall. The roof is constructed of corrugated Transite® approximately 3/4 " thick, and slopes down to the north for drainage. The door, walls, and the only storage shelf all have grounding straps attached. The east and west walls have outside air louvers (one on each wall), which are approximately 16" above grade and approximately 8" x 16". The building has electric power, but no lights or heating. The electrical power consists of a 480-volt transformer and an on-off switchbox on the west wall and an on-off switchbox on the north wall. None of the electrical power is hooked up to any equipment; there is no

electrically operated equipment in the building. The building appears to be in poor condition from water damage to the door. The concrete/cinderblock headers above the door and above the glass-block window are heavily cracked. The northeast corner of the north wall has a lot of concrete mortar missing.

Building 987 was used for storage of CS/CN gas cylinders (a low-level tear gas on hand for demonstrations), security seals for Plant Protection, and other security supply items during the past 20 years. Plant Protection removed all of their stored items during 1998. Previously boxes of explosives were stored in the building. No other known chemicals were used or stored. Items left in the building are Styrofoam® insulation blocks, 2" x 4" x 6' lumber pieces, a sheet of Tuffak® polycarbonate, and scrap pieces of polycarbonate on the floor. The building is not located on an IHSS or Potential Area of Concern (PAC).

2.3 Trailer 331A

This trailer was brought on to the plant site in 1964, and where it was used is unknown until 1979 when it was moved to its present location east of the fire station. It has an old property tag that indicates that it was under control of someone in Building 778. Also, Property Management indicated that it was at one time located near Building 371and used as an office trailer, and at another time it was located in a trailer complex where PAC 1 is now located. This trailer is approximately 40' long, 10' wide and 8' high with a 2' skirt. There are two entrances to the trailer, one on the northeast side and the other on the southwest side. The entrances have wooden steps leading up to a plywood-covered platform. The original siding has been painted over. The interior consists of three rooms, a small office on the north end, a large center room that was sleeping quarters for the women fire fighters, and shower-toilet facilities in a room in the south end. The interior walls have been painted over and may be Masonite. The ceiling composition cannot be determined as it has also been painted over, but consists of panels that are 2 feet wide and run the width of the trailer long. The floor is carpeted and has a linoleum section in front of the entrances and the shower facility. The utilities for this trailer include two window-mounted air conditioners, a wall-mounted electric heater, a fire sprinkler system, and smoke detectors. It is connected to the Plant fire alarm and public address (LSDW) systems. Hot water for the shower-toilet comes from a 52-gallon electric hot-water heater, which is in a small room in the southeast corner of the sleeping quarters.

The use of this trailer in the 15 years before it was moved to its present position is unknown, but it probably was used as offices. It is unknown what the original configuration was, but it was remodeled when it became sleeping quarters for the women fire fighters. The shower-toilet room is of welded steel walls, floor, and ceiling. Currently the fire department uses the trailer for training purposes. The trailer's current location is not an IHSS or PAC. A Facility Interview Checklist was not prepared for this facility.

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2.4 Trailer 771D

This trailer is now located in the B280 Yard awaiting disposal. It was originally placed (in 1969) in the T771 Trailer Complex, which is located to the west of PAC 3. This unit is 12' x 40' x I0' high. It is a single-wide trailer with baked on painted corrugated sheet metal siding. The roof is also metal. Metal skirting is attached on all sides, and galvanized and unpainted. There are two weather-protected entries, both on the north side of the trailer. The entries are constructed of plywood, including the platforms and steps, and are approximately 3' - 6" above grade. There are a total of 12 windows in the trailer (5 in the north wall, 5 in the south wall, and 2 in the west wall). The floor covering is carpet, and the ceiling material is hardboard held in place with 1" wide nailed batten strips. The east end of the unit has a dry-wall partitioned space approximately 12' x I6'. The walls are painted. The unit has two roof-mounted A/C units and a forced-air heating unit located about midway on the south wall, which has a 2'-6" high vent stack. There is fire protection piping inside, including the manifold and pressure gauge in the northwest corner of the trailer. The trailer has a pair of emergency lights on the north wall and a gas line underneath the trailer for the furnace. The A/C disconnect box and the circuit box for outlets, lights and A/C are located inside of the trailer.

The trailer has always been used for office space for various groups and organizations. Dow brought in this unit in 1969 for contract engineers supporting utilities upgrades for B771. In 1970 Swinerton-Wahlberg Construction Company personnel took it over and occupied until 1975. Then sometime in 1975, J. A. Jones took over the trailer and occupied it until 1989. EG&G Construction Management occupied it in 1990 until the fire department condemned it that year because of the low ceiling. Since 1992 the trailer has been used for storage for excess material prior to going to PU& D Yard (e.g., computer equipment, office chairs, telephone equipment, filled boxes of paper, and other building supplies). Its past location is not part of an IHSS or PAC.

2.5 Trailer 331

This trailer is a 27' x 8' combination shower and toilet, skid-mounted facility. Its present condition is poor, as both exterior doors are missing, all electric lights and switches have been removed, and the shower room exhaust fan has fallen out and is hanging by its electric connection. The toilets have been removed. The exterior aluminum siding has been damaged in one corner. An exterior wall unit is installed at the toilet end of the trailer that supplied heating and air conditioning.

This trailer was in the PU&D Yard south of the WSI firing range from February 1995 to the summer of 2000. It is now located in the B280 Yard. It is not known what organizations previously used the facility and where it was used.

2.6 Trailer 750E

This trailer is a 20' x 10' restroom facility. Its present condition is very poor, as almost all

of the aluminum siding is gone, and some of the exterior wood sheathing is also gone. The interior has weather damage as the doors have stood open or sealed poorly and water has gotten in. One of stall doors in the women's side has partially come loose from the wall and is hanging down. An exterior wall unit at the end of the trailer supplied heating and cooling.

This trailer was in the PU&D yard south of the WSI firing range from January 1993 until the summer of 2000, when it was relocated to the B280 Yard. It was purchased in April of 1984. Aerial photographs indicate that it was located at the 750 trailer complex until it was sent to the PU&D Yard in 1993. It is not known what organizations previously used the facility. A Facility Interview Checklist was not prepared for this facility.

2.7 Trailer 903A

The trailer is 46' long by 9'10" wide and 8' high. The trailer is divided into three rooms. The west room (which is 13' x 8'4" x 8' high) has a furnace on the west wall, a closet, and a storage shelf. The middle room (which is 20'5" x 8'4" x 8' high) is empty. The east room (which is 9'4" x 8'4" x 7'7" high) is a shower room, which was used only for storage of equipment and supplies for the last ten years. The unit was manufactured in March 1961 and was put into service at the RFETS in 1978.

The trailer was used for the conduct of various particle studies and staging of uncontaminated air sampling equipment and supplies. Studies focused on the transport of particles in air and soil. Uncontaminated particles were studied. The trailer was installed approximately 50' south of the 903 Pad in approximately 1978. In 1991 or 1992 the trailer was relocated to the Mound Area and continued to operate until approximately 1995 or 1996. Equipment used in the trailer consisted of air sampling pumps, a microscope, a laser particle counting devise and other laboratory support equipment. Known chemicals used in this laboratory facility were cleaning chemicals, isopropyl alcohol, fluorescent beads, various powders used for air sampling, and motor oil for the air sampling equipment. In 1996 or 1997 the trailer was emptied of all equipment and was relocated to the PU&D Yard, approximately 50 yards southeast of the entrance gate of the PU&D Yard near the Firing Range. During the summer of 2000, the trailer was moved to the B280 Yard. Previous locations may be part of Site IHSSs (e.g., 109 or 183 in Operable Unit 2). A Facility Interview Checklist was not prepared for this facility.

3.0 SUMMARY OF CHARACTERIZATION ACTIVITIES

An RLC was designed to demonstrate that DOE-added radioactive materials are not present or have been removed to the extent that residual levels of contamination are below the Derived Concentration Guideline Levels (DCGLs) and that the facilities can disposed of as sanitary waste. This section of the RLC Report (RLCR) presents data quality objectives (DQOs) used, historical and process knowledge, and RLC performed to release the facilities. Section 3.0 also describes the survey units for characterizing the seven facilities, and defines the methods used to perform radiological surveys, scans and sampling. The RLC followed the guidance provided in NUREG-1575, the Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM).

3.1 Data Quality Objectives

The following section revisits the original DQOs used in designing the RLC Characterization Package.

The Problem

The problem consists of the unknown volume of floors, walls, ceilings and roofing, interior/exterior to the facilities, and the unknown extent of radiological and chemical contamination on and in floors, walls (interior and exterior), ceilings and roofing.

The Decision

The decision is whether release criteria for radiological and chemical constituents have been met, based on types and quantities of any radiological and chemical contamination present.

Inputs to the Decision

The inputs to the decision include historical and process knowledge; data collected from this RLC; and release criteria and waste management regulations.

Decision Boundaries

The decision boundaries include the floors, walls (interior and exterior), ceilings, roofing and any fixed equipment associated with the seven facilities.

Decision Rules

This section presents the rules to support the characterization decisions, specific to each type of contamination.

Radionuclides

- If all radiological survey and scan measurements are below the surface contamination guidelines provided in DOE Order 5400.5 (Radiation Protection of the Public and Environment), the related surface is considered not radiologically contaminated.

- If any radiological survey or scan measurement exceeds the surface contamination guidelines provided in DOE Order 5400.5, the related survey unit must be evaluated per the statistical tests described in Section 7.0 of the RFETS Pre-Demolition Survey Plan.

Hazardous Waste

If decommissioning waste is mixed with or contains a listed hazardous waste, or if the waste exhibits a characteristic of a hazardous waste, then the waste is considered RCRA-regulated hazardous waste in accordance with 6 CCR 1007-3, Part 261 and 268.

Hazardous Substances

If material contains a listed hazardous substance the CERCLA reportable quantity (40 CFR 302.4), the material is subject to CERCLA regulation (i.e., notification requirements).

Beryllium

If surface concentrations of beryllium are equal to or greater than 0.2 $\mu g/100\ cm^2$, the material is considered beryllium contaminated per the Occupational Safety and Industrial Hygiene Program Manual, Chapter 28, Chronic Beryllium Disease Prevention Program (CBDPP).

Polychlorinated Biphenyls (PCBs)

- If material contains PCBs from the manufacturing process, the material is considered PCB Bulk Product Waste and subject to the requirements of 40 CFR 761.

- If PCB contamination from a past spill/release is suspected, or if a PCB spill is discovered that has not been cleaned up, the associated material is considered PCB Remediation Waste and subject to the requirements of 40 CFR 761, the RFETS Polychlorinated Biphenyls Management Plan (PRO-673-EWQA-1.5), and the RFETS WSRIC standards.

- If a waste or item contains PCBs in regulated concentrations, the waste or item is considered PCB-regulated material and subject to the requirements of 40 CFR 761.

Asbestos

If any one sample of a sample set representing a homogeneous medium results in a positive detection for asbestos (i.e., >1% by volume), then material is considered asbestos containing material (ACM; 40 CFR 763 and 5 CCR 1001-10).

Tolerable Limits on Decision Error

The maximum value for false positive and false negative errors is 5% when calculating the number of samples required.

Optimization of Plan Design

Radiological characterization was conducted on interior floors, walls and ceilings, and exterior walls and roofs as necessary. The following criteria were used to develop the radiological survey/sampling characterization package:

- Radiological field measurement methods and instrumentation are described in Section 6 of MARSSIM.
- Radiological sampling and preparation for laboratory measurements are described in Section 7 of MARSSIM.
- If radiological survey/samples are required for release, then radiological surveying and sampling are conducted per the requirements in the RFETS HSP 18.10, Radioactive Material Transfer and Unrestricted Release of Property and Waste.

If hazardous waste, hazardous substance, beryllium, PCB or asbestos surveys/samples are required, sampling and analysis are conducted in accordance with Section 6.0 of the D&D Characterization Protocol.

3.2 Radiological Characterization

Radiological characterization was performed to define the nature and extent of radioactive contamination that may be present on or in the seven facilities. This section reviews the historical radiological information on these facilities, or lack thereof, and discusses the RLC conducted. Radiological hazards are discussed in Section 4.0, and RLC data are presented in Appendices A - G.

3.2.1 Summary of Historical Information

Historically, radiological surveys for B331A, B987, T331A, T771D, T331, T750E and T903A may have been performed, but the data are not readily available. There are no Plant Action Tracking System items outstanding on these trailers, which indicates no

associated radiological program deficiencies. Trailers T331A and T771D are individually listed in I-P73-HSP-18.10, *Radioactive Material Transfer And Unrestricted Release Of Property And Waste, Appendix 4, Unrestricted Release Building/Facility List.* This listing authorizes the unrestricted release of administrative, non-hazardous property located in the trailers without radiological surveys or Radiological Safety signature for either off-site shipment or transfer to PU&D. The HSP 18.10 listing is indicative of structures with a low probability of radioactive contamination, based on historical activities associated with the facilities.

3.2.2 Summary of RLC Data Collected

Although historical review indicates no use of DOE-added radioactive material, insufficient quantitative radiological data existed to designate B331A, B987, T331A, T771D, T331 and T750E as non-impacted pursuant to MARSSIM. T903A is considered an impacted facility per MARSSIM. Therefore, radiological surveys and scans were performed in all facilities (refer to RLC Package for Group C Trailers, Integrated Work Control Package (IWCP) Work Control No. T0102832; K-H 2000a). An interior and exterior survey unit was designated for T331A, T331, T750E, T771D and T903A. The interior and exterior were combined as a single survey unit for B331A and B987.

Total surface activity (TSA), removable activity, and surface scans were performed on the interior and exterior of all facilities for alpha and beta contamination per MARSSIM guidance. Surface scans were performed in areas where contamination would be expected to accumulate (i.e., high traffic areas on the floors, etc.). A minimum of 10% of the total area of the survey unit was scanned for all facilities except T903A. 100% of the floor area within T903A was scanned. Twenty-eight randomly selected TSA and removable activity measurements were taken in each survey unit except the interior of T903A. A systematic grid pattern was used for the 28 measurement points on the interior of T903A in accordance with MARSSIM requirements for Class 2 facilities. TSA and removable activity measurements were taken independently of surface scans to maximize the probability of finding contamination. Five of the twenty-eight randomly selected TSA measurement locations were resurveyed by an independent radiological control technician for quality control (QC) purposes. In addition, 5% of the 10% surface scan area was resurveyed for QC purposes.

In general, two roof media samples and a duplicate (three samples total) were analyzed for each facility that had elevated readings to determine if elevated radioactivity was due to naturally occurring radioactive material (NORM), specifically Po-210 (Polonium). Facilities that had no elevated readings were not sampled. Sampling requirements are delineated in the Characterization Package for Sampling and Analysis of Roofing Material from Groups B & C for Isotopic Analysis, March 16, 2000 (K-H 2000b). The characterization strategy was designed to acquire a statistically valid number of samples for a specific media type generic to both Group B and C trailers, which routinely yields elevated total surface activity values. The specific media type of interest was weathered sheet metal, in the form of exterior (trailer) roofs. The strategy also

considered results from 15 additional samples acquired from a similar trailer roof, specifically from Trailer 112B. Based on the favorable results from T112B (which both ruled-out DOE-added material and confirmed Po-210 as the cause of elevated TSAs), the sample frequency for Group B and C trailers (cited above) was chosen for each trailer roof to produce a total of 26 samples (not including duplicates) to represent the trailer roofs as one population.

Ventilation systems in trailers and the underneath of trailers were not specifically measured for contamination. No ventilation system contamination was suspected by Safety and Industrial Hygiene, and the trailers had been cleared for occupation until abandoned. Also, exterior and interior measurements were used as an indicator for other contamination, including ventilation system contamination. In addition, radiological contamination resulting from windblown dispersion is just as likely a mechanism for contamination as actual contact with soil at grade, therefore, interior and exterior surveys conducted were adequate.

3.2.3 Sampling and Field Measurement Methods, Procedures and Equipment

TSA measurements for alpha and beta were taken with a NE Electra using a DP-6 probe. Removable activity measurements for alpha and beta were analyzed with an Eberline SAC-4 and BC-4, respectively. Surface scans for alpha and beta were taken with the NE Electra at a scan rate of 1.5 inches per second and 4 inches/second, respectively. Radiological survey packages were developed for each survey unit in accordance with RFETS Radiological Safety Practices (RSP) 16.01, "Radiological Survey/Sampling Package Design, Preparation, Control, Implementation and Closure," RFETS RSP 16.02, "Radiological Surveys of Surfaces and Structures" and RFETS RSP 16.05, "Radiological Survey/Sample Quality Control." Radiological surveys and scans were taken per the requirements of Appendix 8 of RFETS SWP-RFCSS-00002-00, "Reconnaissance Level Characterization", Revision 0, dated February 2000.

Specific TSA and removable survey locations were selected using a random number generator for all facilities except T903A. For T903A, one point of the grid pattern selected was randomly placed. Since all points in T903A could not be placed using the grid, one point was chosen on a random basis to complete the survey grid design. Scan locations were biased toward heavy foot-traffic areas and areas likely to collect airborne particulates. Random measurements were taken at the center of each grid location. If grid locations were inaccessible, the measurement was obtained as close as possible to the grid location, and the new location was annotated on the survey map.

Measurement locations were clearly identified with labels or permanent markings to provide a method of referencing survey results to survey measurement locations. These measurement locations were incorporated into a grid map at survey densities of 1 m^2. Measurement results as well as statistical data analyses are presented in the appendix for each survey unit.

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Roof media sampling requirements are delineated in the Characterization Package for Sampling and Analysis of Roofing Material from Groups B & C for Isotopic Analysis, March 16, 2000.

Samples were managed to ensure an accurate record of sample collection, transport, analysis, and disposal. Chain-of-custody documentation captures this process for all samples submitted for laboratory analysis and ensures that samples are neither lost nor tampered with and that the samples analyzed are traceable to a specific location in the field. Chain-of-custody forms are included as part of survey documentation in Appendix H.

3.2.4 Laboratory Analysis

Radiological samples were analyzed using the Oxford Alpha Spectroscopy Integrated System (OASIS). Radiological samples used to verify and validate OASIS results were analyzed in accordance with Analytical Services Division contractual requirements, specifically Module RCO1, *Isotopic Determinations by Alpha Spectroscopy.*

All samples collected for RFETS laboratories or approved contracted laboratories were analyzed via a Site-approved method (see Section 6.2.3). The laboratories have an established quality assurance/quality control program that assures the validity of the analytical results. The laboratory analytical methods used are capable of measuring levels at or below 50% of the established release criteria. All results state the detection limit for the analysis. Results are detailed in the Appendices for each individual survey unit.

3.3 Chemical Characterization

Chemical characterization was performed to determine the nature and extent of chemical contamination that may be present on or in the seven facilities (B331A, B987, T331A, T771D, T331, T750E and T903A). Characterization was based on a review of historical and process knowledge and visual inspections, and is presented in this section. Related hazards are discussed in Section 4.0.

3.3.1 Summary of Historical Information

Information on contaminants of concern (i.e., asbestos, beryllium, RCRACERCLA constituents, lead in paint, and PCBs) is presented below.

Asbestos: No historical asbestos inspection data exist for any of the Group C facilities. Therefore, an asbestos inspection was required for RLC.

Beryllium: There is no record of beryllium operations or storage being conducted in the Group C facilities (refer to *D&D Facility Characterization Interview Checklist and Type I Facility Checklist for Group C Facilities,* and *List of Known Beryllium Areas*). Additionally, T771D has been used as administrative office space since its arrival on

site, and the *RFETS Administrative Equipment Characterization for Beryllium Contamination Project Plan Report* (January 1998) showed that administrative buildings with no record of beryllium activities had no detectable beryllium contamination. Therefore, beryllium sampling is unnecessary and was not conducted.

RCRA/CERCLA Constituents [including metals and volatile and semi-volatile organic compounds (VOCs & SVOCs)]: According to historical and process knowledge, the seven facilities were not used for operations involving hazardous chemicals (*D&D Facility Characterization Interview Checklist and Type I Facility Checklist for Group C Facilities*). B331A was used to store fire extinguishers, and B987 was used to store CS/CN gas cylinders and boxes of explosives. No releases/spills of hazardous substances are known to have occurred, and no hazardous wastes were generated or stored in these facilities. Therefore, sampling for chemical contaminants is unnecessary and was not conducted.

Lead in paint: No information exists on the lead content of paints on the Group C facilities. However, Environmental Waste Compliance Guidance #27, *Lead-based Paint (LBP) and Lead-based Paint Debris Disposal*, states that LBP debris generated outside of high contamination areas shall be managed as non-hazardous (solid) wastes and need not be sampled unless the potentially lead-containing component is to be scabbled or otherwise comprise a separate waste stream. Therefore, analysis for lead in paint is not required for release.

Polychlorinated Biphenyls (PCBs): Historical data and process knowledge give no reason to suspect that any specialized paints or coatings containing PCBs were applied to the Group C facilities. However, Environmental Waste Compliance Guidance #25, *Management of Polychlorinated Biphenyls (PCBs) in Paint and Other Bulk Product Waste During Facility Disposition*, has directed that applied dried paints, varnishes, waxes, or other similar coatings or sealants are acceptable for disposal (with notification) in a non-hazardous solid waste landfill as PCB Bulk Product Waste under 40 CFR 761.3 and 40 CFR 761.62 paragraph (b), and therefore, need not be sampled as long as restrictions outlined in 40 CFR 761.62 regarding their disposition are met. Therefore, the Group C facilities do not require characterization for PCBs in paint.

Fluorescent light ballasts containing PCBs may exist in the Group C facilities due to their age. All PCB ballasts must be removed and segregated in a separate waste stream prior to disposition of the Group C facilities. Therefore, inspection of fluorescent light ballasts for PCBs was required for RLC.

3.3.2 Summary of RLC Data Collected

Based on historical information presented in Section 2.0 and the inspections conducted, the only RLC field activities required were sampling for asbestos-containing material and inspection of fluorescent light ballasts for PCBs. An asbestos inspection of the seven facilities was conducted by a CDPHE-certified asbestos inspector. Light ballasts

were evaluated by knowledge staff. A visual inspection of the facilities' roofs, interior and exterior panels, walls, and floors revealed no evidence of chemical spills or releases (i.e., stains, discoloration, odors, or other physical characteristics).

4.0 HAZARDS

This sections presents physical, radiological and chemical hazards by facility, including data from radiological field measurements and laboratory analysis. Data are presented in Appendixes A – G.

The RLC (serving also as the Pre-Demolition Survey, PDS) confirmed that the Group C Facilities (inside and outside) do not contain radiological contamination above the release limits prescribed in DOE Order 5400.5 and the RFETS Radiological Control Manual. The exterior survey units contained numerous total surface activity measurements above the release limits prescribed in DOE Order 5400.5 and the RFETS Radiological Control Manual. These results were suspected to be elevated due to naturally occurring radioactive material (NORM), specifically Po-210, deposited on the roof surface. OASIS results validated the presence of Po-210 and the absence of DOE-added material.

For each trailer, the potential for a chemical hazard due to each of the following contaminants was considered:

- Asbestos.
- Beryllium;
- Lead and other metals;
- VOCs/SVOCs;
- PCBs.

Each potential chemical hazard was evaluated primarily based upon historical and process knowledge coupled with visual inspections (refer to Section 3.3). In addition, each facility was inspected for asbestos-containing material (ACM) and chemical spills, including PCB leaks from PCB light ballasts. Some samples were taken and analyzed for ACM. The chemical hazards are summarized in Table 4-1.

4.1 B331A

4.1.1 Physical Hazards

The structure presents no special physical hazards. B331A is structurally in good condition and is empty of any hazardous equipment. Current physical hazards associated with the structure consist of those common to an empty structure. The structure is not connected to any utilities such as electricity. Physical hazards are controlled by the Site Safety and Industrial Hygiene Program, which is based on OSHA regulations and standard industry practices.

Table 4-1 Summary of Group C Chemical Hazards

Contaminant of Concern	Analysis	Historical or RLC?	Below release limit or regulatory thresholds?
Asbestos	Two samples of T750E brown sheet linoleum were determined to contain asbestos.	RLC	Yes[1]
	Flooring beneath the carpet in T331A was determined to contain asbestos.	RLC	Yes[1]
	The roof of B987 is transite and was assumed to contain asbestos.	RLC	Yes[1]
	Walls and roof of B331A are transite and assumed to contain asbestos.	RLC	Yes[1]
Metals, including Be	No history of use or storage. No sampling is required.	Historical	Yes
VOCs/SVOCs	No history of use or storage. No sampling was required.	Historical	Yes
Lead in paint	No sampling is required.	Historical	Yes[2]
PCBs	All PCB ballasts have been removed. No specialized paints or coatings were observed. No sampling for PCB in paint was required.	Historical	Yes[3]

1 Notification of the State and of the waste disposal facility of the presence of non-friable asbestos is required if remediation is not carried out prior to disposal.

2 Environmental Waste Compliance Guidance #27, *Lead-based Paint (LBP) and Lead-based Paint Debris Disposal*, states that LBP debris generated outside of currently identified high contamination areas shall be managed as non-hazardous (solid) wastes and need not be sampled unless the potentially lead-containing component is to be scabbled or otherwise comprise a separate waste stream.

3 Environmental Waste Compliance Guidance #25, *Management of Polychlorinated Biphenyls (PCBs) in Paint and Other Bulk Product Waste During Facility Disposition*, states that applied dried paints, varnishes, waxes, or other similar coatings or sealants are acceptable for disposal (with notification) in a non-hazardous solid waste landfill as PCB Bulk Product Waste under 40 CFR 761.3 and 40 CFR 761.62 paragraph (b) and therefore need not be sampled as long as restrictions outlined in 40 CFR 761.62 regarding their disposal are met.

4.1.2 Radiological Hazards

Based on historical and process knowledge, B331A is classified as a MARSSIM Class 3 area and a Type I facility pursuant to the DPP. The RLC (serving also as the PDS) confirms that this trailer does not contain radiological contamination above the release limits prescribed in DOE Order 5400.5 and the RFETS Radiological Control Manual.

B331A, because of its small size, was a combined interior/exterior survey unit. The interior of the building contained no measurements (TSA or Removable Activity) above the release limits prescribed in DOE Order 5400.5 and the RFETS Radiological Control Manual. The exterior of the building contained one alpha TSA measurement above the release limits prescribed in DOE Order 5400.5 and the RFETS Radiological Control Manual. This result was suspected to be elevated due to naturally occurring radioactive material (NORM), specifically Po-210, deposited on the roof surface. Data are presented in Appendix A.

B331A was not included in the characterization package to be sampled. However, because of the similar nature of the roof surface to the trailers that were sampled in Groups B and C, it can be inferred that the elevated reading is due to the presence of Po-210 and not DOE-added material.

4.1.3 Chemical Hazards

4.1.3.1 Asbestos

No historical asbestos data were available for B331A, so an asbestos inspection was performed as part of RLC. Because B331A is being released as waste, material potentially containing *friable* or *non-friable* asbestos was required to be sampled.

B331A walls and roof contain transite, which is assumed to be asbestos-containing without sampling, as determined by a CDPHE-certified asbestos inspector. If related ACM remediation is not performed prior to release, notification of the State and the waste disposal facility of the presence of asbestos is required. No hazard from *friable* asbestos exists on the facility. The asbestos data are contained in Appendix A-2.

4.1.3.2 Metals (including beryllium and lead in paint)

According to historical and process knowledge, no metals, including beryllium and lead, were used or stored in the facility, and therefore, no related hazards are present on building walls and roofing.

4.1.3.3 VOCs/SVOCs

According to historical and process knowledge, no chemicals were used or stored in the facility (except chemicals contained in fire extinguishers), and therefore, no related hazards are present on building walls and roofing.

4.1.3.4 PCBs

There is no record of PCB product use or storage in B331A, and therefore, no related hazards are present on building walls and roofing.

4.2 B987

No hazards are associated with B987 except the transite roof. The building slab will remain in place after the building is removed. This slab will be further characterized prior to and during its removal.

4.2.1 Physical Hazards

The structure presents no special physical hazards. B987 is structurally in good condition and is empty of any hazardous equipment. Current physical hazards associated with the structure consist of those common to an empty structure. The structure is still connected to Site electricity. Physical hazards are controlled by the Site Safety and Industrial Hygiene Program, which is based on OSHA regulations and standard industry practices.

4.2.2 Radiological Hazards

Based on historical and process knowledge, B987 was classified as a MARSSIM Class 3 area and a Type I facility pursuant to the DPP. The RLC (serving also as the PDS) confirms that this trailer does not contain radiological contamination above the release limits prescribed in DOE Order 5400.5 and the RFETS Radiological Control Manual.

B987, because of its small size, was a combined interior/exterior survey unit. The interior of the building contained no measurements (TSA or Removable Activity) above the release limits prescribed in DOE Order 5400.5 and the RFETS Radiological Control Manual. The exterior of the building contained two alpha TSA measurements between 75 and 100% of the release limits prescribed in DOE Order 5400.5 and the RFETS Radiological Control Manual. These results were suspected to be elevated due to naturally occurring radioactive material (NORM), specifically Po-210, deposited on the roof surface. Data are presented in Appendix B.

Nine point investigations for TSA, over a 1 m^2 area, were performed at each of the two elevated locations. In both cases the average over the 1 m^2 area was less than 75 dpm/100 cm^2.

4.2.3 Chemical Hazards

4.2.3.1 Asbestos

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No historical asbestos data were available for B987, so an asbestos inspection was performed as part of RLC. Since B987 is being released as waste, material potentially containing *friable* or *non-friable* asbestos was required to be inspected.

B987 has a corrugated transite roof, which is assumed to be asbestos-containing without sampling, as determined by a CDPHE-certified asbestos inspector. If related ACM remediation is not performed prior to release, notification of the State and the waste disposal facility of the presence of asbestos is required. No hazard from *friable* asbestos exists on the facility. The asbestos data are contained in Appendix B-2.

4.2.3.2 Metals (including beryllium and lead in paint)

According to historical and process knowledge, no metals, including beryllium and lead, were used or stored in the facility, and therefore, no related hazards are present on building walls and roofing.

4.2.3.3 VOCs/SVOCs

B987 was used to store CS/CN gas cylinders and boxes of explosives, however, no releases of gas and explosives are known to have occurred. According to historical and process knowledge, no other chemicals were used or stored in the facility, and therefore, no related hazards are present on building walls and roofing.

4.2.3.4 PCBs

There is no record of PCB product use or storage in B987, and therefore, no related hazards are present on building walls and roofing.

4.3 T331A

4.3.1 Physical Hazards

The trailer presents no special physical hazards. T331A is structurally in good condition and is empty of any hazardous equipment. Current physical hazards associated with the trailer consist of those common to an empty trailer. The trailer is still connected to Site electricity. Physical hazards are controlled by the Site Safety and Industrial Hygiene Program, which is based on OSHA regulations and standard industry practices. The trailer, however, has been condemned because of mold contamination.

4.3.2 Radiological Hazards

Based on historical and process knowledge, Trailer T3311A is classified as a MARSSIM Class 3 area and a Type I facility pursuant to the DPP. The RLC (serving also as the PDS) confirms that this trailer does not contain radiological contamination above the

release limits prescribed in DOE Order 5400.5 and the RFETS Radiological Control Manual.

Trailer T331A was separated into two distinct survey units: Interior and Exterior. The Interior survey unit contained no measurements (TSA or Removable Activity) above the release limits prescribed in DOE Order 5400.5 and the RFETS Radiological Control Manual. The Exterior survey unit contained nine alpha TSA measurements above the release limits prescribed in DOE Order 5400.5 and the RFETS Radiological Control Manual. These results were suspected to be elevated due to naturally occurring radioactive material (NORM), specifically Po-210, deposited on the roof surface. OASIS results indicated the presence of Po-210 and the absence of DOE-added material. Data are presented in Appendix C.

4.3.3 Chemical Hazards

4.3.3.1 Asbestos

No historical asbestos data were available for T331A, so an asbestos inspection was performed as part of RLC. Since T331A is being released as waste, material potentially containing *friable* or *non-friable* asbestos was required to be sampled.

Samples from the flooring material that runs throughout the trailer beneath the carpet were determined by a CDPHE-certified asbestos inspector to be asbestos-containing. If related ACM remediation is not performed prior to release, notification of the State and the waste disposal facility of the presence of asbestos is required. No hazard from *friable* asbestos exists on the facility. The asbestos data are contained in Appendix C-3.

4.3.3.2 Metals (including beryllium and lead in paint)

According to historical and process knowledge, no metals, including beryllium, were used or stored in the facility, and therefore, no related hazards are present.

The paint on the interior and exterior surfaces of T331A has not been characterized for lead in paint. Environmental Waste Compliance Guidance #27, *Lead-based Paint (LBP) and Lead-based Paint Debris Disposal*, states that LBP debris generated outside of high contamination areas shall be managed as non-hazardous (solid) wastes and need not be sampled unless the potentially lead-containing component is to be scabbled or otherwise comprise a separate waste stream.

4.3.3.3 VOCs/SVOCs

According to historical and process knowledge, no chemicals were used or stored in the facility, and therefore, no related hazards are present.

4.3.3.4 PCBs

All fluorescent light ballasts have been removed. There is no record of PCB product use or storage in T331A, and therefore, no related hazards are present.

4.4 T771D

4.4.1 Physical Hazards

T771D is structurally in poor condition. Hazards associated with the disposition of such a trailer will need to be assessed prior to disposition, and controls to protect workers will need to be established and implemented. The trailer is empty of any hazardous equipment, and is not connected to any utilities such as Site electricity. Physical hazards are controlled by the Site Safety and Industrial Hygiene Program, which is based on OSHA regulations and standard industry practices.

4.4.2 Radiological Hazards

Based on historical and process knowledge, Trailer T771D is classified as a MARSSIM Class 3 area and a Type I facility pursuant to the DPP. The RLC (serving also as the PDS) confirms that this trailer does not contain radiological contamination above the release limits prescribed in DOE Order 5400.5 and the RFETS Radiological Control Manual.

Trailer T771D was separated into two distinct survey units: Interior and Exterior. The Interior survey unit contained no measurements (Total Surface Activity or Removable Activity) above the release limits prescribed in DOE Order 5400.5 and the RFETS Radiological Control Manual. The Exterior survey unit contained ten alpha Total Surface Activity measurements above the release limits prescribed in DOE Order 5400.5 and the RFETS Radiological Control Manual. These results were suspected to be elevated due to naturally occurring radioactive material (NORM), specifically Po-210, deposited on the roof surface. OASIS results indicated the presence of Po-210 and the absence of DOE-added material. Data are presented in Appendix D.

4.4.3 Chemical Hazards

4.4.3.1 Asbestos

No historical asbestos data were available for T771D, so an asbestos inspection was performed as part of RLC. Since T711D is being released as waste, material potentially containing *friable* or *non-friable* asbestos was required to be inspected.
T771D has wooden ceiling panels, and the walls are insulated by fiberglass. No potentially asbestos-containing material was observed during an inspection by a CDPHE-certified asbestos inspector. No sampling was required. The asbestos data are contained in Appendix D-3.

4.4.3.2 Metals (including beryllium and lead in paint)

According to historical and process knowledge, no metals, including beryllium, were used or stored in the facility, and therefore, no related hazards are present.

The paint on the interior and exterior surfaces of T771D has not been characterized for lead in paint. Environmental Waste Compliance Guidance #27, *Lead-based Paint (LBP) and Lead-based Paint Debris Disposal*, states that LBP debris generated outside of high contamination areas shall be managed as non-hazardous (solid) wastes and need not be sampled unless the potentially lead-containing component is to be scabbled or otherwise comprise a separate waste stream.

4.4.3.3 VOCs/SVOCs

According to historical and process knowledge, no chemicals were used or stored in the facility, and therefore, no related hazards are present.

4.4.3.4 PCBs

All fluorescent light ballasts have been removed. There is no record of PCB product use or storage in T771D, and therefore, no related hazards are present.

4.5 T331

4.5.1 Physical Hazards

T331 is structurally in poor condition. Hazards associated with the disposition of such a trailer will need to be assessed prior to disposition, and controls to protect workers will need to be established and implemented. The trailer is empty of any hazardous equipment, and is not connected to any utilities such as Site electricity. Physical hazards are controlled by the Site Safety and Industrial Hygiene Program, which is based on OSHA regulations and standard industry practices.

4.5.2 Radiological Hazards

Based on historical and process knowledge, Trailer T331 is classified as a MARSSIM Class 3 area and a Type I facility pursuant to the DPP. The RLC (serving also as the PDS) confirms that this trailer does not contain radiological contamination above the release limits prescribed in DOE Order 5400.5 and the RFETS Radiological Control Manual.

Trailer T331 was separated into two distinct survey units: Interior and Exterior. The Interior survey unit contained no measurements (Total Surface Activity or Removable Activity) above the release limits prescribed in DOE Order 5400.5 and the RFETS

Radiological Control Manual. The Exterior survey unit contained one alpha Total Surface Activity measurement above the release limits prescribed in DOE Order 5400.5 and the RFETS Radiological Control Manual. This result was suspected to be elevated due to naturally occurring radioactive material (NORM), specifically Po-210, deposited on the roof surface. OASIS results indicated the presence of Po-210 and the absence of DOE-added material. Data are presented in Appendix E.

4.5.3 Chemical Hazards

4.5.3.1 Asbestos

No historical asbestos data were available for T331, so an asbestos inspection was performed as part of RLC. Since T331 is being released as waste, material potentially containing *friable* or *non-friable* asbestos was required to be inspected.

No potentially asbestos-containing material was observed during an inspection by a CDPHE-certified asbestos inspector. No sampling was required. The asbestos data are contained in Appendix E-3.

4.5.3.2 Metals (including beryllium and lead in paint)

According to historical and process knowledge, no metals, including beryllium, were used or stored in the facility, and therefore, no related hazards are present.

The paint on the interior and exterior surfaces of T331 has not been characterized for lead in paint. Environmental Waste Compliance Guidance #27, *Lead-based Paint (LBP) and Lead-based Paint Debris Disposal*, states that LBP debris generated outside of high contamination areas shall be managed as non-hazardous (solid) wastes and need not be sampled unless the potentially lead-containing component is to be scabbled or otherwise comprise a separate waste stream.

4.5.3.3 VOCs/SVOCs

According to historical and process knowledge, no chemicals were used or stored in the facility, and therefore, no related hazards are present.

4.5.3.4 PCBs

All fluorescent light ballasts have been removed. There is no record of PCB product use or storage in T331, and therefore, no related hazards are present.

4.6 T750E

4.6.1 Physical Hazards

T750E is structurally in poor condition. Hazards associated with the disposition of such a trailer will need to be assessed prior to disposition, and controls to protect workers will need to be established and implemented. The trailer is empty of any hazardous equipment, and is not connected to any utilities such as Site electricity. Physical hazards are controlled by the Site Safety and Industrial Hygiene Program, which is based on OSHA regulations and standard industry practices.

4.6.2 Radiological Hazards

Based on historical and process knowledge, Trailer T750E is classified as a MARSSIM Class 3 area and a Type I facility pursuant to the DPP. The RLC (serving also as the PDS) confirms that this trailer does not contain radiological contamination above the release limits prescribed in DOE Order 5400.5 and the RFETS Radiological Control Manual.

Trailer T750E was separated into two distinct survey units: Interior and Exterior. The Interior survey unit contained no measurements (Total Surface Activity or Removable Activity) above the release limits prescribed in DOE Order 5400.5 and the RFETS Radiological Control Manual. The Exterior survey unit contained ten alpha Total Surface Activity measurements above the release limits prescribed in DOE Order 5400.5 and the RFETS Radiological Control Manual. These results were suspected to be elevated due to naturally occurring radioactive material (NORM), specifically Po-210, deposited on the roof surface. OASIS results indicated the presence of Po-210 and the absence of DOE-added material. Data are presented in Appendix F.

4.6.3 Chemical Hazards

4.6.3.1 Asbestos

No historical asbestos data were available for T750E, so an asbestos inspection was performed as part of RLC. Since T750E is being released as waste, material potentially containing *friable* or *non-friable* asbestos was required to be inspected.

Two samples each were taken of the brown sheet linoleum on the floor and the 2' x 4' white ceiling tiles. Three samples were taken of the drywall, which contained no tape joint compound. Samples were taken during an inspection by a CDPHE-certified asbestos inspector.

Both samples of the brown sheet linoleum were determined to be asbestos containing. No hazard from *friable* asbestos exists on the trailer. If related ACM remediation is not performed prior to release, notification of the State and of the waste disposal facility of the presence of asbestos is required. The asbestos data are contained in Appendix F-3.

4.6.3.2 Metals (including beryllium and lead in paint)

According to historical and process knowledge, no metals, including beryllium, were used or stored in the facility, and therefore, no related hazards are present.

The paint on the interior and exterior surfaces of T750E has not been characterized for lead in paint. Environmental Waste Compliance Guidance #27, *Lead-based Paint (LBP) and Lead-based Paint Debris Disposal*, states that LBP debris generated outside of high contamination areas shall be managed as non-hazardous (solid) wastes and need not be sampled unless the potentially lead-containing component is to be scabbled or otherwise comprise a separate waste stream.

4.6.3.3 VOCs/SVOCs

According to historical and process knowledge, no chemicals were used or stored in the facility, and therefore, no related hazards are present.

4.6.3.4 PCBs

All fluorescent light ballasts have been removed. There is no record of PCB product use or storage in T750E, and therefore, no related hazards are present.

4.7 T903A

4.7.1 Physical Hazards

T903A is structurally in poor condition. Hazards associated with the disposition of such a trailer will need to be assessed prior to disposition, and controls to protect workers will need to be established and implemented. The trailer is empty of any hazardous equipment, and is not connected to any utilities such as Site electricity. Physical hazards are controlled by the Site Safety and Industrial Hygiene Program, which is based on OSHA regulations and standard industry practices.

4.7.2 Radiological Hazards

Based on historical and process knowledge, Trailer T903A is classified as a MARSSIM Class 3 area and a Type I facility (exterior), and a MARSSIM Class 2 area and a Type I facility (interior) pursuant to the DPP. The RLC (serving also as the PDS) confirms that this trailer does not contain radiological contamination above the release limits prescribed in DOE Order 5400.5 and the RFETS Radiological Control Manual.

Trailer T903A was separated into two distinct survey units: Interior and Exterior. The Interior survey unit contained no measurements (Total Surface Activity or Removable Activity) above the release limits prescribed in DOE Order 5400.5 and the RFETS Radiological Control Manual. The Exterior survey unit contained nine alpha Total Surface Activity measurements above the release limits prescribed in DOE Order 5400.5 and the RFETS Radiological Control Manual. These results were suspected to

be elevated due to naturally occurring radioactive material (NORM), specifically Po-210, deposited on the roof surface. OASIS results indicated the presence of Po-210 and the absence of DOE-added material. Data are presented in Appendix G.

4.7.3 Chemical Hazards

4.7.3.1 Asbestos

No historical asbestos data were available for T903A, so an asbestos inspection was performed as part of RLC. Since T903A is being released as waste, material potentially containing *friable* or *non-friable* asbestos was required to be inspected.

Two samples were taken of the 12' x 12' white floor tile (with yellow / brown mastic) beneath the carpet. Two additional samples were taken of the green sheet tile (with black mastic) beneath the carpet. Samples were taken during an inspection by a CDPHE-certified asbestos inspector. None of these were determined to be asbestos containing. The asbestos data are contained in Appendix G-3.

4.7.3.2 Metals (including beryllium and lead in paint)

According to historical and process knowledge, no metals, including beryllium, were used or stored in the facility, and therefore, no related hazards are present.

The paint on the interior and exterior surfaces of T903A has not been characterized for lead in paint. Environmental Waste Compliance Guidance #27, *Lead-based Paint (LBP) and Lead-based Paint Debris Disposal*, states that LBP debris generated outside of high contamination areas shall be managed as non-hazardous (solid) wastes and need not be sampled unless the potentially lead-containing component is to be scabbled or otherwise comprise a separate waste stream.

4.7.3.3 VOCs/SVOCs

According to historical and process knowledge, no chemicals were used or stored in the facility, and therefore, no related hazards are present.

4.7.3.4 PCBs

All fluorescent light ballasts have been removed. There is no record of PCB product use or storage in T903A, and therefore, no related hazards are present.

5.0 DECOMMISSIONING WASTE TYPES AND VOLUME ESTIMATES

The demolition and disposal of the seven Group C facilities will generate a variety of wastes. Table 5-1 presents the estimated volumes by facility and waste type. All wastes can be disposed of as sanitary waste. There will be no radioactive or hazardous waste. Some of the waste will be asbestos containing material (ACM). Disposal of ACM will require notification of the State and the waste disposal facility.

Table 5-1 Estimated Group C Waste Volumes by Waste Type and Facility

Facility	Concrete	Wood	Metal	Corrugated/ Sheet Metal	Wall Board	ACM	Other Waste
B331A	None	None	6 cu ft	32 cu ft	None	Transite walls - 32 cu ft	None
B987	200 cu ft	2 cu ft	12 cu ft	None	None	Transite roof - 5 cu ft	Glass brick - 2 cu ft
T331A	None	250 cu ft	85 cu ft	24 cu ft	16 cu ft	Flooring material – 8 cu ft	Fiberglass insulation - 400 cu ft, 1 hot water heater, 1 toilet, 1 sink
T771D	None	250 cu ft	80 cu ft	24 cu ft	16 cu ft	None	Fiberglass insulation - 400 cu ft, 1 gas furnace
T331	None	125 cu ft	50 cu ft	12 cu ft	16 cu ft	None	Fiberglass insulation - 200 cu ft, 1 heat pump, HVAC unit
T750E	None	125 cu ft	50 cu ft	12 cu ft	40 cu ft	Linoleum tile – 8 cu ft	Fiberglass insulation - 200 cu ft, 1 hot water heater, 1 heat pump, HVAC unit, 1 sink
T903A	None	240 cu ft	80 cu ft	24 cu ft	16 cu ft	None	Fiberglass insulation - 400 cu ft, 1 gas furnace

6.0 DATA QUALITY ASSESSMENT (DQA)

Data used in making decisions must be of adequate quality, as required by applicable K-H corporate policies (K-H QAPD, 1997, Section 7.1.4 and 7.2.2), as well as by the customer (DOE, RFFO; Order O 414.1A, Quality Assurance, §4.b.(2)(b)). Regulators and the public also expect decisions and data that are technically and legally defensible. Verification and validation of the data ensure that data used in decisions resulting from the RLC are usable and defensible.

The DQA consists of revisiting the DQOs used for the project and determining whether those objectives were met. This data evaluation also consists of verifying and validating the RLC data, which ensures that data input into decisions are accurate, precise, representative, complete, and comparable.

Original DQOs of the project are stated in Section 3.1, where problems, decisions, decision inputs, project boundaries, and error tolerances were adequately defined. The decision for the Group C facilities is whether contamination levels are below release criteria, for both chemicals and radionuclides. Although asbestos was detected in some of the floor tiles, it was not friable, and thus an asbestos hazard does not exist. No evidence of chemicals were noted (e.g., stains or fluorescent light ballasts with PCBs). The conclusions with respect to radiological contamination – all facilities comply with unrestricted release criteria -- are derived from measurements at a 95% confidence level, using MARSSIM methodology in the survey units' design. Original estimates of survey quantities were confirmed by using measured values (vs. assumed values) in the sample quantity derivation (Appendix H).

The RLC for Group C facilities was conducted in accordance with the FDPM and the DDCP. These programs conform with the Site's DOE-approved QA Program, which in turn conforms with DOE Order 414.1A, *Quality Assurance*. The program also conforms with MARSSIM guidance, which reflects elements of DOE Order 414.1A. Adequate implementation of the quality elements required by DOE Quality Assurance was corroborated through the verification and validation process described within this section.

The DQA presented in this section supports conclusions through implementation of the guidelines taken from the following MARSSIM sections:

- Section 4.9, Quality Control
- Section 8.2, Data Quality Assessment
- Section 9.0, Quality Assurance & Quality Control
- Appendix E, Assessment Phase of the Data Life Cycle
- Appendix N, Data Validation using Data Descriptors

The MARSSIM-recommended criteria for verification and validation of pre-demolition (final status) survey data, listed above, are summarized in Table 6-1. The MARRSIM criteria are listed across the top of the table, whereas the project's proof of

Group C -- Trailers 903A, 750E, 331, 771D, & 331A; Bldgs 331A & 987

	MARSSIM sec 4.9							MARSSIM sec 8.2				MARSSIM sec 9.0														MARSSIM AppdX E (DQA)			MARSSIM AppdX N				
	QAPP	SOPs	Training & Quals (personnel)	calibrations	QC Samples	sample quantities (adequacy of)	precision	Reviews - DQOs & Sampling Design	"prelim" data review	graphical data review	conclusions	Reports (to decision makers)	site description	analytical methods & MDA/MDC	background radiation	measurement results	Chain-of-Custody	SOPs	Quality records	results by geographic location	defined level of data review	data quality indicators (PARCCS)	QC measurements	review DQOs & survey design	draw conclusions	raw data; original data forms	QA assessments/NCRs/CARs	data reduction/calculations	method validation	historical data
Inventory of Report & Data Package	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Reconnaissance-Level Characterization Rpt												X	X			X			X						X							
Executive Summary											X	X				X						X			X	X						
Sec 3.0 Summary of Characterization Activities								X																								
Sec 4.0 Hazards																											X					
Sec 5.0 Data Quality Assessment						X	X	X		X	X				X							X			X	X		X		X		
Appendices (Survey Results, Maps, Data)																X			X	X												
Data Package	X		X																													X
CHAR SURVEY PACKAGES		X			X	X		X				X						X	X											X		
Summary Package Cover Sheets																X			X		X											
(MARSSIM) PreSurvey Calculation Worksheets					X										X				X											X		
Sampling & Survey Instructions		X																	X													
Total Surface Activity Data Sheets					X										X				X					X		X						
Removable Contamination Sheets															X				X					X								
Instrument Data Sheets															X				X													
Survey Signatures								X	X										X													
Grid Survey Maps									X										X	X												
(MARSSIM) PostSurvey Verification worksheets						X													X									X				
Lab Results						X										X			X					X								
Chain-of-Custody						X											X		X							X						
Survey Unit Data Summary						X				X						X			X	X								X				
QA/QC													X						X													
Calibrations & Reference (Source) Standards				X															X													
Sensitivity (MDC) determinations																		X	X													
Periodic Performance Checks				X										X		X		X	X					X		X						

= qualified; some alpha spec (OASIS) sensitivities were between the DCGLw and 1/2 DCGLw due to relatively shorter count times; technique is semi-quantitative

Table 6-1 Group C Final Status Survey Compliance with MARSSIM Data Quality Guidelines.

implementation is listed along the left side of the table. One or more "checks" per column exhibit compliance with the MARSSIM criterion.

6.1 Verification Of Results

Verification ensures that data produced and used by the project are documented and traceable per quality requirements. Verification confirmed that:

- Chain-of-custody was intact from initial sampling though transport and final analysis;
- Preservation and hold-times were within tolerance;
- Format and content of the data are clearly presented relative to goals of the project.

Verification of the Group C dataset also confirmed the presence of records representing implementation of the following quality controls:

- Calibrations/periodic performance checks (alpha spectroscopy, surveys and scans), for accuracy;
- Laboratory control samples (LCS -- alpha spectroscopy), for accuracy;
- Blanks (alpha spectroscopy), for accuracy;
- Lab and field duplicate measurements, for precision;
- Chemical yield (alpha spectroscopy), for accuracy;
- Count times (alpha spectroscopy surveys and scans), for sensitivity;
- Sample preparations (alpha spectroscopy), for accuracy, representativeness.

Upon completion of the data management activities listed above, peer and quality assurance reviews were performed on the data and this, the final report.

In summary, the verification confirmed that documentation and quality records are intact for the project, which in turn corroborates implementation of the required technical quality controls and administrative requirements, particularly verification of those documents and records that will ultimately support the CERCLA Administrative Record. This report and all relevant Quality records associated with the project will be submitted to the CERCLA Administrative Record, for permanent storage, within 30 days of approval of the final report.

6.2 Validation Of Results

Validation consisted of a technical review of all data that directly support the RLC decisions. Any limitations of the data relative to project goals are delineated, and the associated data are qualified accordingly. Data were validated relative to quality criteria discussed throughout previously noted MARSSIM sections, RSP requirements, and PARCC parameters (Precision, Accuracy, Representativeness, Comparability, and Completeness). PARCC parameters are consistent with "data descriptors" in MARSSIM and address characteristics of the data that must be defined for scientific integrity and

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defensibility. The PARCC parameters also include discussion on bias and sensitivity, two more data descriptors emphasized in MARSSIM.

Validation of the OASIS methodology was performed on four (4) samples representing the highest TSA values acquired in the field from both Group B and Group C facilities. Validation of the method consisted of 2 parts: 1) establishing presence/absence of DOE-added radionuclides at the sensitivities specified for the OASIS (i.e., ≤50% $DCGL_W$), and 2) quantification of Po-210 concentrations relative to levels measured in the field with hand-held instruments.

Most importantly, the offsite results (4 total) confirmed the absence of DOE-added radionuclides at the sensitivities cited for the OASIS. Of secondary interest were how well OASIS results for Po-210 levels corresponded with standard alpha spectroscopy that includes wet chemistry sample preparations (K-H Module RC01). A total of four replicate samples were submitted for analysis. The offsite lab yielded two (2) results with excellent agreement between methods (<5% difference), whereas two (2) other results reflect a potential high bias in the OASIS method (58% - 195% greater than offsite results for Po-210). A high bias is conservative with respect to unrestricted release decisions, and does not impact decisions made on this project.

6.2.1 Precision

6.2.1.1 Radiological Surveys and Scans

Precision of the radiological instrumentation was satisfactory based on tolerance charting of daily source measurements for each individual sensor used on the project, which includes all measurement types (scans and static measures for total contamination and swipes for removable). Adequate precision was established through instrument performance within a ±20% range as defined by measurement results compared to a standard source value. Based on site protocol (i.e., RSPs), any measurement exceeding the defined tolerance limits required corrective action (repair or replacement) prior to the instrument's use during pre-demolition survey.

Duplicate measurements were acquired for total and removable surface activity measurements at ≥10% frequency per survey unit. All duplicate measurements were within tolerance based on the acceptance criterion that both results be below Derived Concentration Guideline Level-Averaged Measures ($DCGL_W$). Note that even if populations were "significantly" different between real and duplicate results, if both duplicate and real population statistics are less than action levels, the difference between duplicate and real values is, ultimately, insignificant relative to release decisions.

6.2.1.2 Alpha Spectroscopy

Media samples were analyzed for the presence/absence of DOE-added radionuclides through the use of the onsite OASIS. Acceptable precision of the system was proven

through the use of multiple analyses of a standard reference materials (^{237}Np) within acceptance limits as established through control charting. Acceptable precision (repeatability) is exhibited through multiple measurements consistently falling within ±3 standard deviations (i.e., control limits) of an average value, typically illustrated through control charting.

Replicates of project samples, to determine overall sampling precision, were not analyzed through OASIS but were submitted to an offsite laboratory to better evaluate independent repeatability of the results (based on the relatively new application of OASIS in RFETS Pre-Demolition Surveys). Four (4) samples of the collective Group B and C sample sets, or ~10% of the collective, were submitted for duplicate analyses, consistent with industry standard quality control sampling frequency. The four samples were selected (biased) with respect to the highest TSA values measured by the OASIS on the trailers. Group B and C sample sets were combined for this evaluation of precision due to the similarity of material types (weathered sheet metals and tarry substrata), and locations (mobile trailer rooftop surfaces). Results indicate adequate repeatability and verify that the elevated alpha readings are due to Po-210 and not DOE-added material. Refer to Appendix G.

6.2.2 Accuracy (and Bias)

6.2.2.1 Radiological Surveys and Scans

Accuracy of radiological surveys and scans is satisfactory based on RFETS-programmatic annual calibrations that establish instrument efficiencies and sensitivities for all instrumentation used on this project. Daily source checks also provided periodic checks to ensure that all sensors are within tolerance during daily operations. Calibration and calibration check results were within the RFETS and industry-standard requirement of 20% of the applicable reference standard values. Full-scale, multi-point calibrations provided accuracy of ± 10% prior to implementation of survey instruments in the field, consistent with guidelines put forth in ANSI-N323A. Instrument calibration dates, operability checks, calculated MDA, and established background data are recorded and included in the RLC Data Package for Group C Facilities.

No significant biases were noted based on tolerance charting of all instrumentation used for scans and surveys. Any runs in the data, as defined by 7 or more consecutive points above or below the reference standard value, remained within the ±20% acceptable range of the reference value.

6.2.2.2 Alpha spectroscopy

Accuracies of the alpha spectroscopy results were acceptable based on establishing a batch-specific efficiency for the OASIS and measurement of reference standards within control limits (^{237}Np, as established by ±3 sigma bounds about the arithmetic mean).

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Background values were approximately 1.2 dpm/100 cm^2 for the sample batches, which is typical for the OASIS. Background values approaching 2 dpm/100 cm^2 require corrective actions to the OASIS protocol, but this upper limit was not approached during analysis of the Groups B & C samples.

Preparation blanks were not required, as background values were established, and no wet chemistry sample preparations were necessary or performed. Potential cross-contamination of samples was not an issue, considering all transuranic results were below MDA and, of course, below the $DCGL_w$ as well. Uncertainties of the OASIS results, per sample, were quantified as ± 1 sigma error.

Verification and validation sample result accuracies from the offsite lab (GEL) were adequate based on satisfactory percent (tracer) yields and LCS recoveries between 80% and 120%. Random (counting) error was quantified as ± 2 sigma.

6.2.3 Representativeness

Samples, surveys and scans are representative based on the following criteria:

- Familiarity with facilities -- multiple walk-downs and collaborations by management and technical staff;
- Implementation of industry-standard chain-of-custody protocols;
- Compliance with sample preservation and hold times;
- Documented and (site) approved methods, particularly RSPs for scans/surveys and the following documents for alpha spectroscopy:
  - TBD-00143, *Direct Analysis of Alpha Emitters using the Oxford Alpha Spectroscopy Integrated System (OASIS)*
  - TBD-00153, *Use of the OASIS for Direct Differentiation between Po-210 and DOE-added Materials*; and
- Standard Work Package: SWP-RFCSS-00002-00, Revisions 0 and 1.0:
  - *Characterization Package for Sampling and Analysis of Roofing Material from Groups B & C for Isotopic Analysis*, March 16, 2000
  - IWCP Work Control No. T0102832
  - *Reconnaissance Level Characterization Package for Group C Trailers*, Feb. 2000, Rev. 0
  - IWCP Work Control No. T0102837
  - IWCP Work Control No. T0102838.

6.2.4 Completeness

The data set for this project is complete with respect to surveys, scans, samples and associated quality records ("data packages") resulting from the collective RLC and Pre-Demolition process. Based on process knowledge of the trailers, coupled with detailed visual inspections, chemical (non-radiological) analyses were not warranted for any of the Group C facilities. Completeness of radiological surveys and samples is detailed,

by individual survey unit, in each appendix. The complete and original data packages resulting from offsite labs are archived by K-H Analytical Services Division.

Consistent with the DQO process, the sampling design (for the minimum number of MARSSIM-based survey locations) was optimized through back-calculating actual measurement results (acquired during RLC) and comparing model output with original estimates (28, as noted on the "Survey Package Calculation Worksheet", Appendix H). Representative Post-Survey verification worksheets are included in Appendix H. Use of actual sample/survey/scan (result) variances in MARSSIM's DQO model provided confirmation that an adequate number of samples/surveys/scans had been acquired. In some instances, where TSA results were elevated due to Po-210 concentrations, the Post Survey calculations could indicate that more survey points were needed. These numbers are artificially high because the elevated results were due to Po-210, and not due to DOE-added radionuclides. Consequently, where the presence of NORM (specifically Po-210) was confirmed through alpha spec analysis, Post Survey Statistics Calculations that use survey (TSA) results are not applicable as a means of checking TSA survey frequencies, but would show adequate survey frequency if results attained from analytical samples were used instead.

6.2.5 Comparability

All results presented are comparable with radiological survey/scan and alpha spectroscopy data on a RFETS- and DOE-complex wide basis. This comparability is based on:

- Use of standardized engineering units in the reporting of measurement results;
- Consistent sensitivities of measurements at approximately 50% or less of the $DCGL_W$ (approximately 50% or less of the $DCGL_{EMC}$ for scans);
- Use of RFETS-approved procedures;
- Systematic quality controls; and
- Thorough documentation of the planning, sampling/analysis process, and data reduction into formats designed for making decisions based on the project's original DQOs.

6.2.6 Sensitivity

Adequate sensitivities, in units of dpm/100 cm^2, were attained for all surveys/scans and alpha spectroscopy methods implemented based on minimum detectable activities (MDAs) at 50% of the transuranic $DCGL_W$ ($\leq$ 50% $DCGL_{EMC}$ for scans), with the exception of 10 of the 18 samples analyzed by alpha spectroscopy. Limited count times were the cause of the elevated MDAs at 70 dpm/100cm^2, where the MARSSIM-recommended maximum sensitivity, in this case, would be at 50 dpm/100 cm^2. These MDAs do not affect final decisions based on the results of verification samples analyzed offsite, which verified the absence of DOE-added materials (Appendix H). In future RLC projects, all count times will comply with MARSSIM guidance.

The nominal MDAs for each survey and alpha spectroscopy method are summarized as follows:

- Removable alpha contamination (Eberline SAC-4): ≤10 dpm/100cm^2;
- Removable beta contamination (Eberline BC-4): <200 dpm/100cm^2;
- Total alpha contamination (NE Electra): <50 dpm/100cm^2;
- Total beta contamination (NE Electra): <350 dpm/100cm^2;
- Alpha spectroscopy (OASIS): 30 - 79 dpm/100cm^2 (cumulative transuranics – Am-241 and Pu-239/240).

6.2.7 Other QA Elements

All personnel performing activities affecting quality within the RLC project were qualified to perform their specific tasks. Suitable training and qualification documentation for personnel performing the work, from the laborers to technical professionals to management, is documented in both the IWCP and the applicable Human Resources department.

6.3 DQA Summary

In summary, the data presented in this report have been verified and are valid, with noted qualifications, and complete for comparison with release criteria (action levels) as stated in the DQOs. The qualifications listed for alpha spectroscopy data do not impact the decisions to release the structures/trailers. The results of verification samples from an offsite, independent laboratory (Appendix G) corroborated the absence of DOE-added radionuclides at the highest elevated TSA locations, and likewise confirmed that Po-210 was comparable to activities measured in the field with survey instrumentation and onsite alpha spectroscopy. All media sampled, surveyed and scanned relative to total and removable alpha activities yielded results less than release limits associated with the stated contaminants of concern. Therefore, the Group C facilities, both collectively and individually, meet the release criteria with the statistical and qualitative confidences stated in this section and throughout the report.

7.0 CLASSIFICATION OF TRAILERS

Based on the analysis of radiological, chemical and physical hazards, the Group C Facilities (B331A, B987, T331A, T771D, T331, T750E and T903A) are classified as Type I Facilities (i.e., "free of contamination") pursuant to the RFETS Decommissioning Program Plan (DPP, K-H, 1999). Classification was based on a review of historical and process knowledge, and newly acquired RLC data. Results indicate that no radioactive or chemical contamination exists and that no significant physical hazards are present. T331A, T750E, B331A and B987 contain non-friable ACM, and disposal of ACM will require notification of the State and the waste disposal facility.

8.0 REFERENCES

ANSI-N323A-1997, *Radiation Protection Instrumentation Test and Calibration.*

DOE/RFFO, CDPHE, EPA, 1996. Rocky Flats Cleanup Agreement (RFCA), July 19, 1996.

DOE Order 5400.5, "Radiation Protection of the Public and the Environment."

DOE Order 414.1A, "Quality Assurance."

EPA, 1994. "The Data Quality Objective Process," EPA QA/G-4.

K-H, 1997. "Kaiser-Hill Team Quality Assurance Program", Rev. 5, 12/97.

K-H, 1998. Facility Disposition Program Manual, MAN-076-FDPM, Rev. 1, September 1999.

K-H, 1999. Decontamination and Decommissioning Characterization Protocol, MAN-077-DDCP, Rev. 1, June 19, 2000.

K-H, 1999. Decommissioning Program Plan, June 21, 1999.

K-H, 2000a. Reconnaissance Level Characterization Package for Group C Trailers, IWCP Work Control No. T0102832, Rev. 0, February 2000.

K-H, 2000b. Characterization Package for Sampling and Analysis of Roofing Material from Groups B & C for Isotopic Analysis, March 16, 2000.

MARSSIM – Multi-Agency Radiation Survey and Site Investigation Manual, December 1997 (NUREG-1575, EPA 402-R-97-016).

RFETS Chronic Beryllium Disease Prevention Program, "List of Known Beryllium Areas" (Maintenance Work Package Planning Package, 1-E33-IWCP-3, Rev. 3) January 1998.

RFETS, Environmental Waste Compliance Guidance #25, *Management of Polychlorinated Biphenyls (PCBs) in Paint and Other Bulk Product Waste During Facility Disposition.*

RFETS, Environmental Waste Compliance Guidance #27, *Lead-Based Paint (LBP) and Lead-Based Paint Debris Disposal.*

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B331A – Radiological Survey Data for Exterior/Interior Survey Unit

- Summary of Radiological Survey/Sample Results
- Map of Locations
  - Scans
  - Surveys
- Removable and Total Survey Results – Detail
- Laboratory Alpha Spec (Sample) Results – Detail

Radiological Survey/Sample Results for B331A

Total Surface Activity Measurements dpm/100 cm^2

Interior/Exterior	Alpha # Required	Alpha # Obtained	Beta # Required	Beta # Obtained
	28	28	28	28
MIN	-16.2	-698		
MAX	195.5	603		
MEAN	18.1	-157.6		
STD DEV	37.1	302.6		
Exterior	# Required	# Obtained	# Required	# Obtained
	N/A	N/A	N/A	N/A
MIN	N/A	N/A		
MAX	N/A	N/A		
MEAN	N/A	N/A		
STD DEV	N/A	N/A		
$DCGL_W$	100	5000		

Removable Activity Measurements dpm/100 cm^2

Interior/Exterior	Alpha # Required	Alpha # Obtained	Beta # Required	Beta # Obtained
	28	28	28	28
MIN	-1.5	-24		
MAX	4.5	28		
MEAN	1.0	-1.1		
STD DEV	2.2	11		
Exterior	# Required	# Obtained	# Required	# Obtained
	N/A	N/A	N/A	N/A
MIN	N/A	N/A		
MAX	N/A	N/A		
MEAN	N/A	N/A		
STD DEV	N/A	N/A		
$DCGL_W$	20	1000		

Media Sample Activity

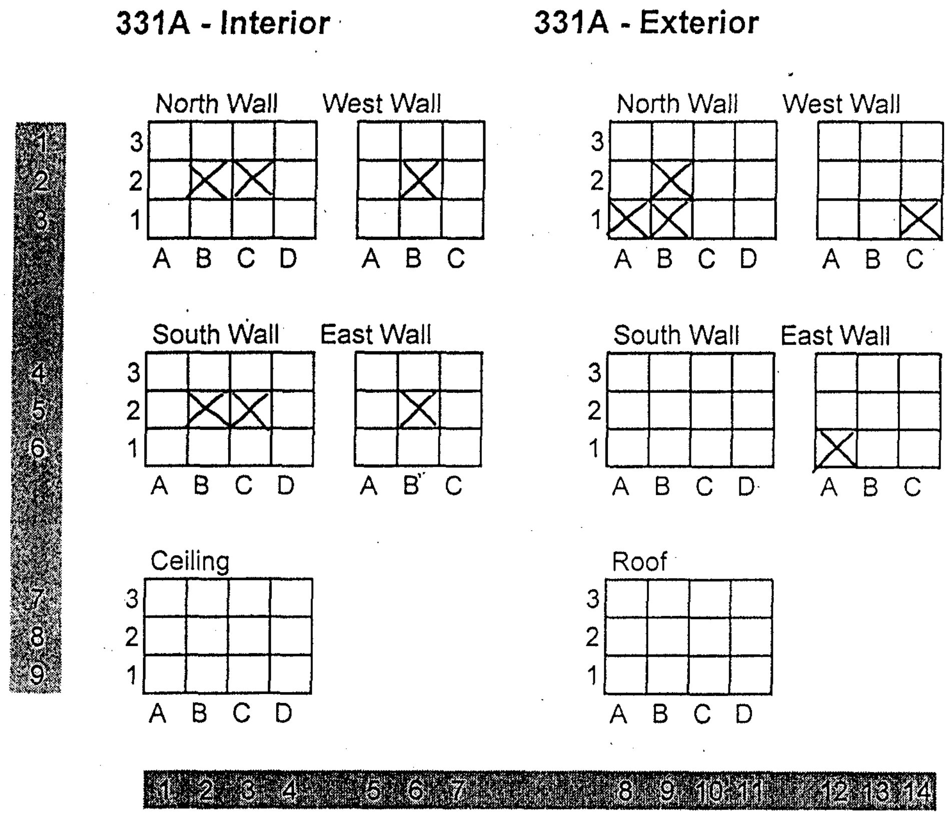
# Required	# Obtained
1	1

Contaminant	Y/N	Det. Sens. dpm/100 cm^2
U present	N	20
Pu present	N	20

Total Po-210 Results dpm/100 cm^2

MIN	504
MAX	504
MEAN	504
STD DEV	10

Scan Locations:



5
4 of 14
[illegible]

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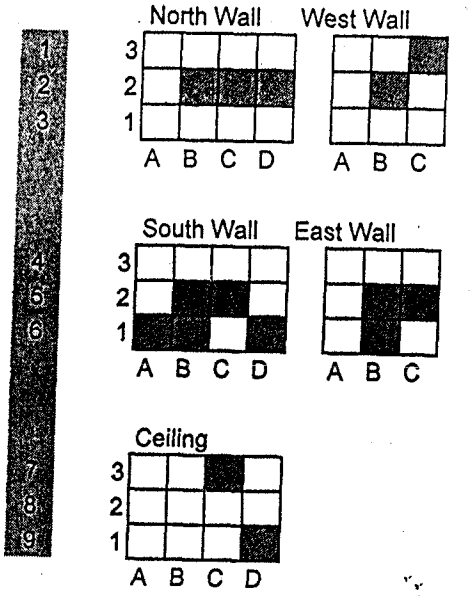
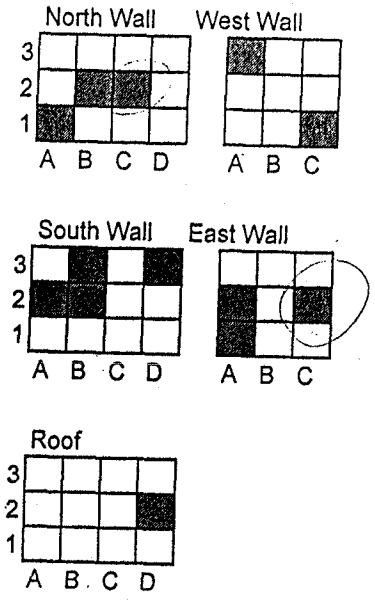
331A - Interior



331A - Exterior



X-Coordinate	Y-Coordinate
6	8

= one square meter

= direct & swipe

Total Surface Area = 108 m^2

10% Surface Area = 10.8 m^2

	X	Y		X	Y		X	Y
1	8	5	11	11	4	21	7	5
2	14	3	12	2	5	22	11	8
3	12	1	13	14	5	23	12	5
4	2	6	14	4	9	24	6	5
5	4	2	15	9	4	25	3	7
6	12	6	16	2	2	26	4	6
7	3	2	17	6	6	27	1	6
8	3	5	18	9	2	28	6	2
9	9	5	19	10	2			
10	8	3	20	7	1			

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.:	NE	Mfg.:	NE	Mfg.:	Eberline
Model	Electra	Model	Electra	Model	SAC 4
Serial #	2376	Serial #	2376	Serial #	823
Cal Due	8/23/00	Cal Due	8/23/00	Cal Due	9-6-00
Bkg.	1	Bkg.	400	Bkg.	0.2
Eff.	20.46	Eff.	29.7	Eff.	33%
MDA	360	MDA	322.4	MDA	12.9
Mfg.:	Eberline	Mfg.:		Mfg.:	
Model	BC-4	Model		Model	
Serial #	966	Serial #	N	Serial #	N
Cal Due	9-15-00	Cal Due		Cal Due	
Bkg.	39.0	Bkg.	A	Bkg.	A
Eff.	25%	Eff.		Eff.	
MDA	97	MDA		MDA	

Survey Type:
Building: B331A
Location: EXTERIOR ROOF
Purpose: Coupon Samples

RWP #: N/A

Date: 6/1/00 Time: 1000

A. PARKER / [signature] /
RCT Name Signature

/ /
RCT Name Signature Employee #

PRN/REN #

Comments:

SURVEY RESULTS

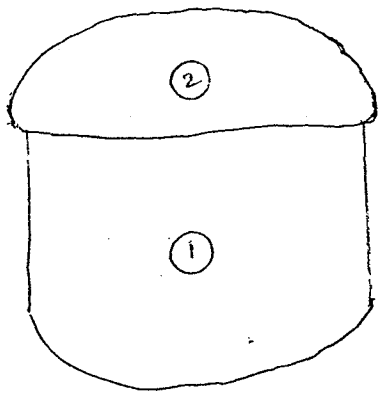
SWIPE	LOCATION	ALPHA SWIPE	ALPHA DIRECT	ALPHA WIPE	BETA SWIPE	BETA DIRECT	BETA WIPE
#	Denoted on survey map	DPM/100CM2	DPM/100CM2	DPM/WIPE	DPM/100CM2	DPM/100CM2	DPM/WIPE
1	See map	<20	<44	N/A	<20	<345	N/A
2	See map	<20	<44	N/A	<20	<345	N/A
3							
4							
5							
6							
7							
8			N				
9							
10							
11			A				
12							
13							
14							
15							
16							
17							

Date Reviewed: RS Supervision: / /
Print Name Signature Emp #

54

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

Drawing Showing Survey Points



Survey Area: NA | Survey Unit: EXT/INT | Building: B331A

Survey Unit Description: WALLS, Roof, Ceiling

Removable Contamination Data Sheet

Sample Location	RCT ID #	Inst ID #		Gross Counts (gcpm)		Net Counts (cpm)		Removable Activity (dpm/100cm2)	
		α	β	α	β	α	β	α	β
2OP									
A-1N	4	1	2	1.0	34.0	0.5	-6.0	1.5	-24
B-2N	4	1	2	2.0	40.0	1.5	0.0	4.5	0.0	
-2N	4	1	2	0.0	42.5	-0.5	2.5	-1.5	10
A-3W	4	1	2	0.0	37.5	-0.5	-2.5	-1.5	-10
C-1W	4	1	2	1.0	37.0	0.5	-3.0	1.5	-12
A-2S	4	1	2	1.0	37.0	0.5	-3.0	1.5	-12
B-2S	4	1	2	1.5	47.0	1.0	7.0	3.0	28
B-3S	4	1	2	2.5	39.5	2.0	-0.5	6.0	-2
D-3S	4	1	2	2.0	43.5	1.5	3.5	4.5	14
A-1E	4	1	2	0.5	33.5	0.0	-1.5	0.0	-6
A-2E	4	1	2	1.5	37.0	1.0	-3.0	3.0	-12
-2E	4	1	2	2.0	38.5	1.5	-1.5	4.5	-6
-2E	4	1	2	0.5	37.0	0.0	-3.0	0.0	-12
RIOP									
	5	4	6	0.0	44.0	-0.5	3.0	-1.5	12
	5	3	5	0.0	39.5	-0.5	0.0 ~~0.0~~ 0.5	-1.5	~~0.0~~ ~~2.0~~ 2.0
-2N	5	4	6	1.0	42.0	0.5	1.0	1.5	4
-2W	5	3	5	2.0	40.5	1.5	1.5	4.5	6
-3W	5	4	6	0.5	41.0	0.0	0.0	0.0	0.0
-1S	5	4	6	0.0	39.0	-0.5	-2.0	-1.5	-8
-1S	5	3	5	0.5	39.0	0.0	0.0	0.0	0.0
-2S	5	4	6	1.0	41.0	0.5	0.0	+1.5	0.0
-2S	5	3	5	0.0	39.5	-0.5	0.5	-1.5	2
-1S	5	4	6	0.0	36.5	-0.5	-4.5	-1.5	-18
-1E	5	3	5	1.0	38.0	0.5	-1.0 ~~-24.00~~	1.5	~~-4.00~~
-2E	5	4	6	0.5	40.5	0.0	~~-0.5~~ 0.5	0.0	~~-2.00~~ -2
-2E	5	3	5	0.5	38.0	0.0	~~-1.0~~ -1.0	0.0	~~-4.00~~ -4
-2E	5	3	5	0.5	43.0	0.0	4.0	0.0	16
-1C	5	3	5	0.5	40.5	0.0	1.5	0.0	6

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Survey Area: N/A	Survey Unit: INT./EXT.	Building: B331A
Survey Unit Description: Roof, Walls, Ceilings + Floors of B331A.		

Total Surface Activity Data Sheet

Sample location	RCT ID #	Inst ID #		Survey count time (sec)		LAB (cpm)		Gross Count (gcpm)		Net counts (cpm)		Net Activity (dpm/100cm2)	
		α	β	α	β	α	β	α	β	α	β	α	β
EXTERIOR				90	90								
A-1N	1	7	7	90	90	5.3	573	11.3	462	6	-111	26.8	-366
B-2N	1	7	7	90	90	4	558	3.4	346	-0.6	-212	-2.7	-698
C-2N	1	7	7	90	90	3.3	537	30	343	26.7	-194	119.5	-639
A-3W	1	7	7	90	90	2.7	505	8.7	359	6	-146	26.8	-481
C-1W	1	7	7	90	90	1.4	455	8	345	6.6	-110	29.5	-362
A-2S	2	8	8	90	90	11.3	351	10.7	335	-0.6	-16	-2.9	-54
B-2S	2	8	8	90	90	6.7	295	4.7	335	-2	40	-9.5	134
B-3S	2	8	8	90	90	9.3	317	14	327	4.7	10	22.3	34
D-3S	2	8	8	90	90	12.7	312	9.3	333	-3.4	21	-16.2	-70
A-1E	2	8	8	90	90	10	358	12	387	2	29	9.5	97
A-2E	1	7	7	90	90	3.3	336	12.7	451	9.4	115	42.1	379
[illegible]2E	1	7	7	90	90	1.3	343	19.3	347	18	4	80.5	13
[illegible]R	3	9	9	90	90	2	480	42	659	40	179	195.5	605
				90	90								
				90	90								
				90	90								
				90	90								
				90	90								
				90	90								
				90	90								
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				90	90								
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				90	90								
				90	90								
				90	90								
				90	90								
				90	90								
B-2N QC	8	10	10	90	90	2.7	321	4.7	320	2.0	59	9.8	198.7
C-2N QC	8	10	10	90	90	2.0	388	6.7	321	4.7	-67	23.0	-225.6
B-2S QC	8	10	10	90	90	2.7	336	7.3	350	4.6	14	22.5	47.1
C-2S QC	8	10	10	90	90	3.3	314	4.7	333	1.4	19	6.8	64.2
[illegible]NQC	8	10	10	90	90	1.3	310	6.0	363	4.7	53	23.0	178.5

N/A

Note: QC measurements are to be collected by a different technician than the original survey. Mark the QC location number in the "Sample Location" column. Material background is assumed to be zero unless otherwise noted. "LAB" ~ local area background.

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Survey Area: N/A	Survey Unit: INT/EXT	Building: B331A
Survey Unit Description	ROOF, WALLS, CEILINGS & FLOORS OF B331A.(INVESTIGATION).	

Removable Contamination Data Sheet

Sample location	RCT ID #	Inst ID #		Gross Counts (gcpm)		Net Counts (cpm)		Removeable Activity (dpm/100cm2)	
		α	β	α	β	α	β	α	β
C2N	1	1	2	0.5	64.5	0	23.6	0.0	94
C2E	1	1	2	0	40.5	-0.5	-0.4	-1.5	-2
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
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						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0

Survey Area: N/A | **Survey Unit:** INT/EXT | **Building:** B331A

Survey Unit Description

ROOF, WALLS, CEILINGS & FLOORS OF B331A.(INVESTIGATION).

Total Surface Activity Data Sheet

Sample location	RCT ID #	Inst ID #		Survey count time (sec)		Gross Count (gcpm)		LAB (cpm)		Net counts (cpm)		Net Activity (dpm/100cm2)	
		α	β	α	β	α	β	α	β	α	β	α	β
C2N	1	7	7	90	90	8.0	331	2.7	355	5.3	-24	24.9	-81
C2E	1	7	7	90	90	6.7	345	2.7	355	4.0	-10	18.8	-34
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
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				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
QC				90	90					0.0	0	0.0	0
QC				90	90					0.0	0	0.0	0
QC				90	90					0.0	0	0.0	0
QC				90	90					0.0	0	0.0	0
QC				90	90					0.0	0	0.0	0

QC measurements are to be collected by a different technician than the original survey. Mark the QC location number in the "Sample Location" column. Material background is assumed to be zero unless otherwise noted. "LAB"~ local area background.

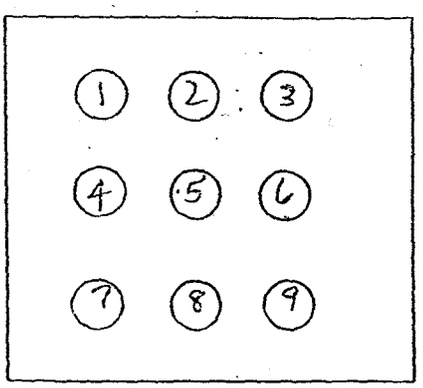
Final Survey NE Electra
Scan & Investigation Survey Map

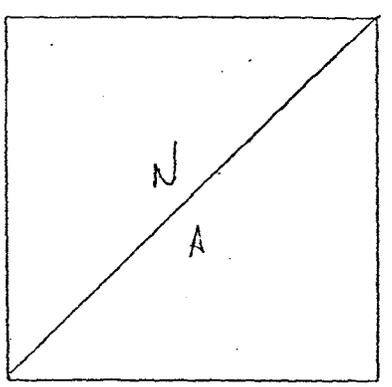
Survey Area: N/A	Survey Unit: EXTERIOR	Building: B331A
Survey Unit Description: 9-POINT INVESTIGATION		
RCT Initials/Date: [illegible]/3.11.00	RCT Initials/Date: N/A	RCT Initials/Date: N/A

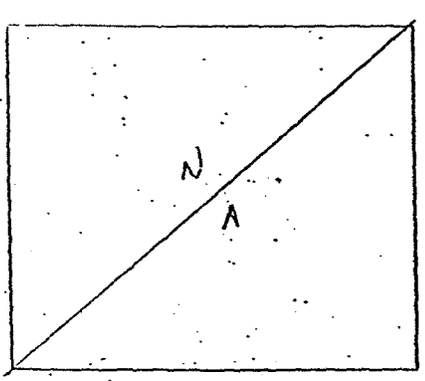
Refer to the Final Survey NE Electra Scan & Investigation Survey Form for instrumentation, surveyor & approval information.

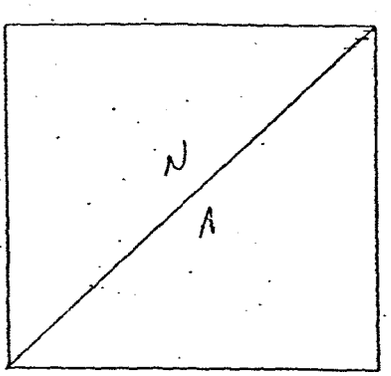
Legend: "R"- Roof, "W" – West Wall, "S" – South Wall, "E" – East Wall, "N" – North Wall "C" –Ceiling, "F" - Floor

D-2 R









*** Designates corner closest to A-1 point of reference**

Results/Comments:

Electra alpha scans were performed at the locations detailed on the survey map(s). All required accessible areas were scanned. All initial scan results were <225 dpm/100cm^2, unless noted on the survey form.

Electra beta scans were performed in required accessible areas. Initial scan results indicated no detectable activity above background unless noted on the survey form.

2 of 4

Final Survey NE Electra
Scan & Investigation Survey Form

Survey Area: N/A	Survey Unit: CORRIDOR	Building: B331A

Survey Unit Description: 1 M² SURVEY SCAN

Loc. ID #	*Electra DP-6 Beta*				*Electra DP-6 Alpha*				
	RCT ID #	Inst. ID #	Elevated Audible observed? "Y" or "N"	60-sec PAT (dpm/100cm2)	RCT ID #	Inst. ID #	4-sec Audible observed? "Y" or "N"	30-sec Static (gcpm)	90-sec PAT (dpm/100cm²)
9 POINT REOF INVESTIGATION									
D-2R1					1	7			572
D-2R2					1	7			244
D-2R3					1	7			578
D-2R4			N		1	7			518
D-2R5			A		1	7	N	A	332
D-2R6					1	7			567
D-2R7					1	7			699
D-2R8					1	7			404
D-2R9					1	7			552

1 M²/AV
489.6 dpm/100cm²

N A

Bottle #: (Rin) 00A1148-041.001 (Dupe) 6.7.00

mple ID: **060100 Po 210 # D2R Q.C.** **Type:** **Unknown**

Batch ID: unknowns
Acquisition Start: June 02, 2000 15:26:09
Analysis Date: June 05, 2000 07:19:07
Procedure: Po210 count
Device: Oasis:01:01
Analysis Method: ROI Analysis
Spectrum File: 00000678.OXS LiveTime: 10,800.00

Calibrations:
Energy = 3.865E+01 +2.790E+00 * Chn Coeff. of Correlation: -0.998
Calibration Date: April 03, 2000 17:45:10 Std: 1:1 energy cal
Shape not Calibrated.
Efficiency = 3.041E-01 ± 4.004E-03
Calibration Date: April 07, 2000 09:49:29 Std: TS4189

External Recovery No Ext.Recovery

Original Sample Amount: 1.000 ± 0.000 samp
Aliquot Amount: 1.000 ± 0.000 samp

ORIGINAL
IF IN BLUE INK

ROI DATA

ROI ID #	ASSOCIATED NUCLIDE	EXTENTS START	EXTENTS END	PK EN (keV)	FWHM (keV)
1 Po218	Po218	5550.0	6104.5	5826.0	4.2
2 Po214	Po214	6588.5	7874.7	7229.6	2.8
3 Po212	Po212	8393.8	8808.6	8599.7	2.8
4 Po210	Po210	2180.3	5343.3	5153.5	3.9

ROI ANALYSIS RESULTS

ROI ID	NET COUNTS	BKG/INTERF	CPM	ROI TYPE
Po218	4.1 ± 2.3	0.85	0.023 ± 0.013	Unknown
Po214	1.6 ± 1.4	0.43	8.74E-03 ± 7.98E-03	Unknown
Po212	0.3 ± 1.0	0.71	1.60E-03 ± 5.83E-03	Unknown
Po210	1,682.6 ± 41.1	7.41	9.348 ± 0.228	Unknown

NUCLIDE ANALYSIS RESULTS

ROI ID	ASSOC NUC	EMM. PROB	ACTIVITY (dpm/samp)	MDA (dpm)
Po218	Po218	1.000	0.076 ± 0.041	1.09E-01
Po214	Po214	1.000	0.029 ± 0.026	9.15E-02
Po212	Po212	1.000	5.25E-03 ± 0.019	1.04E-01
Po210	Po210	1.000	30.744 ± 0.853	2.24E-01

Activity reported as of June 02, 2000 15:26:09

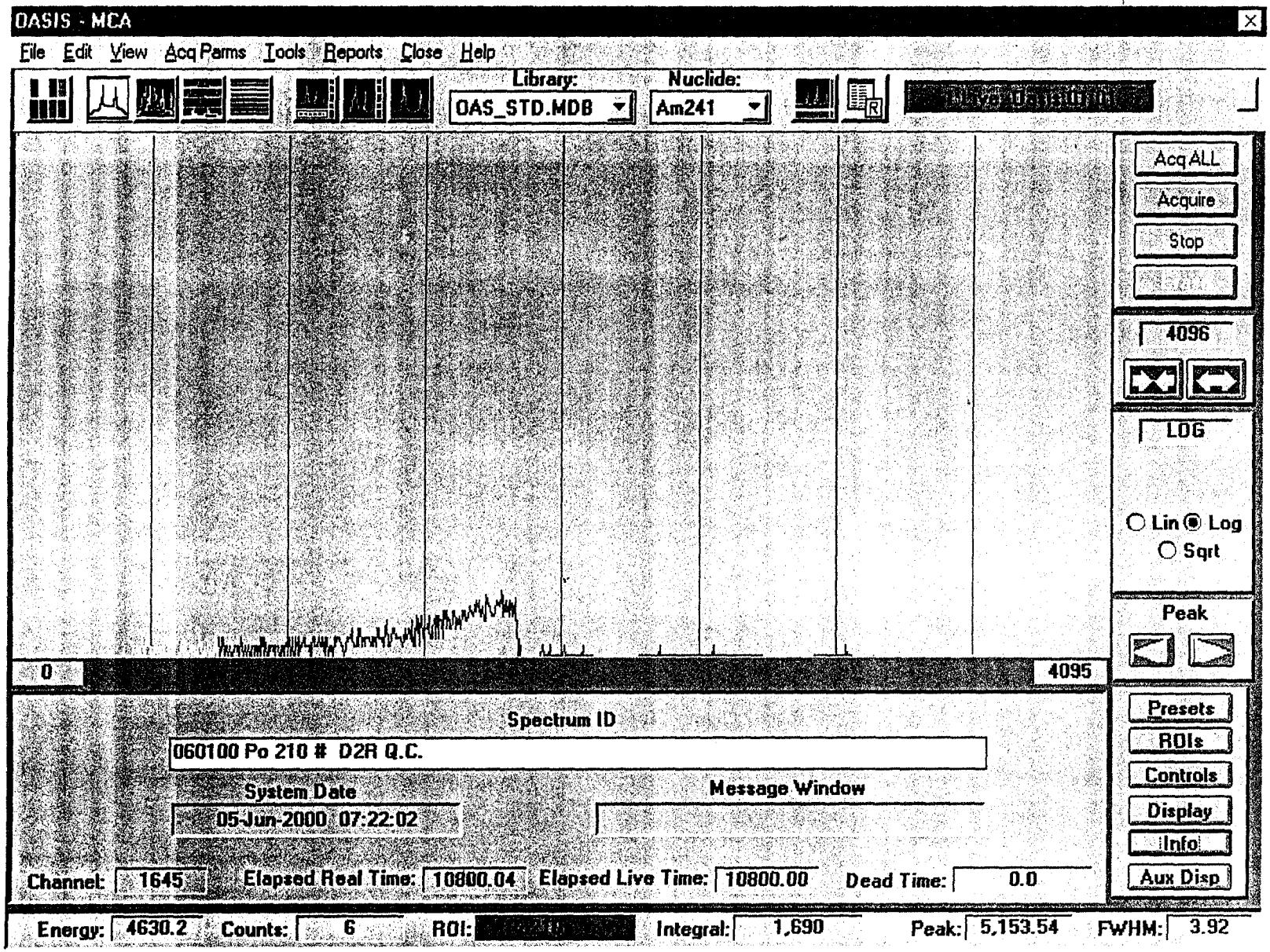
ANALYSIS REVIEWED BY: [signature]

APPROVED BY: [signature] 6/5/00

MDA α 71 β. 371

Electra 1 min count α 11.0 cpm β. 577 cpm

D2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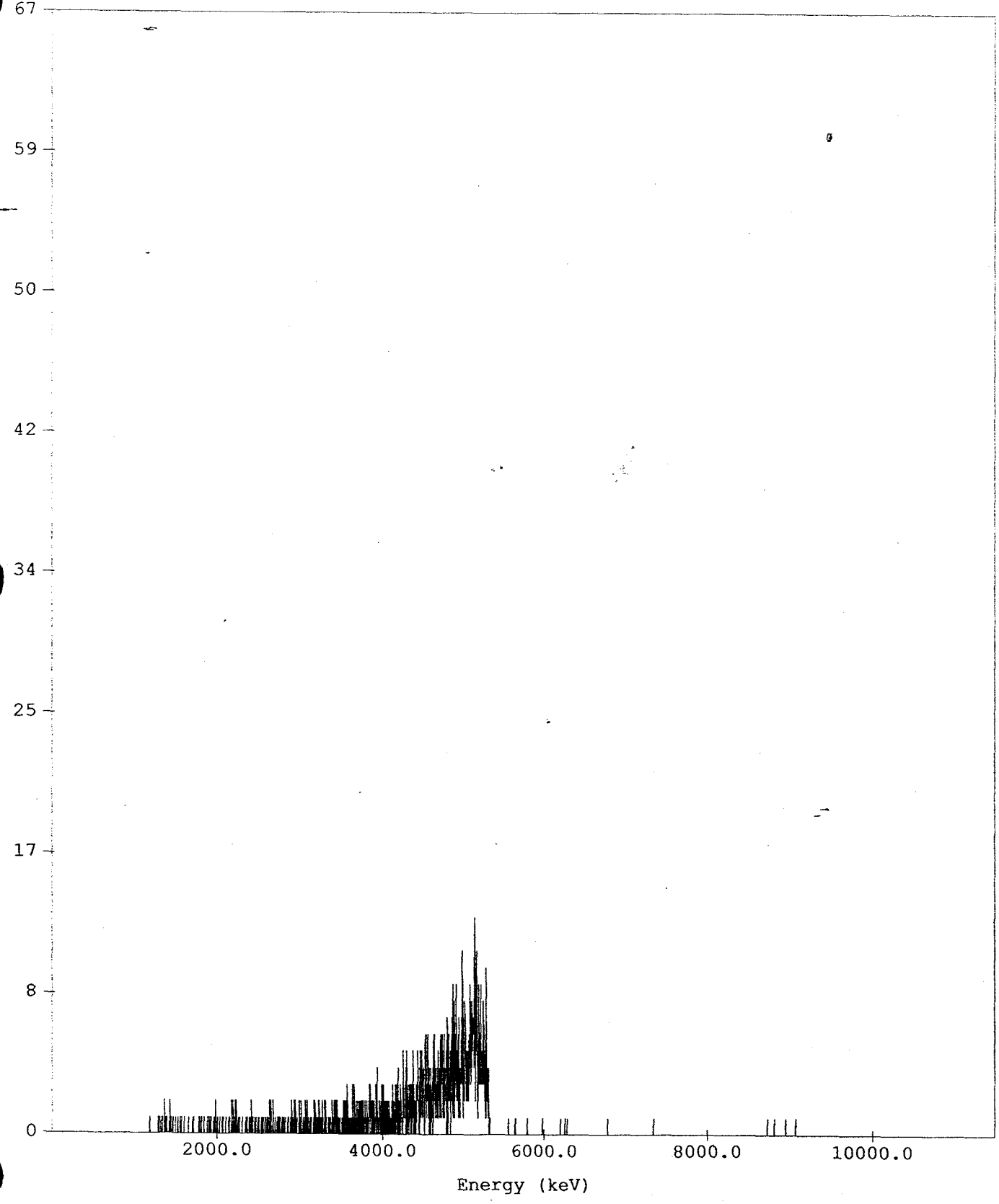
Nuclide:
Am241
Acq ALL
Acquire
Stop
4096
LOG
Lin Log
Sqrt
Peak
0
4095
Spectrum ID
060100 Po 210 # D2R Q.C.
System Date
05-Jun-2000 07:22:02
Message Window
Presets
ROIs
Controls
Display
Info
Aux Disp
Channel: 1645
Elapsed Real Time: 10800.04
Elapsed Live Time: 10800.00
Dead Time: 0.0
Energy: 4630.2
Counts: 6
ROI:
Integral: 1,690
Peak: 5,153.54
FWHM: 3.92

63

File(1): 00000678.OXS Date: 02-Jun-2000 15:26:09 LT: 10,800.00 RT: 10,800.04
S(1): 060100 Po 210 # D2R Q.C.



Bottle #(RIN): 00A1148-040.001 6.7.00

Sample ID: 060100 Po210 D2R 1 Type: Unknown

Batch ID: unknowns
Acquisition Start: June 01, 2000 16:18:07
Analysis Date: June 02, 2000 06:59:59
Procedure: Po210 count
Device: Oasis:01:01
Analysis Method: ROI Analysis
Spectrum File: 00000679.OXS LiveTime: 43,200.00

Calibrations:
Energy = 3.865E+01 +2.790E+00 * Chn Coeff. of Correlation: -0.998
Calibration Date: April 03, 2000 17:45:10 Std: 1:1 energy cal
Shape not Calibrated.
Efficiency = 3.041E-01 ± 4.004E-03
Calibration Date: April 07, 2000 09:49:29 Std: TS4189

External Recovery No Ext.Recovery

Original Sample Amount: 1.000 ± 0.000 samp
Aliquot Amount: 1.000 ± 0.000 samp

ORIGINAL
IF IN BLUE INK

ROI DATA

ROI ID #	ASSOCIATED NUCLIDE	EXTENTS START	EXTENTS END	PK EN (keV)	FWHM (keV)
1 Po218	Po218	5550.0	6104.5	5826.0	2.8
2 Po214	Po214	6588.5	7874.7	7229.6	2.8
3 Po212	Po212	8393.8	8808.6	8599.7	2.8
4 Po210	Po210	2180.3	5343.3	4707.1	6.8

ROI ANALYSIS RESULTS

ROI ID	NET COUNTS	BKG/INTERF	CPM	ROI TYPE
Po218	12.6 ± 4.2	3.42	0.017 ± 5.88E-03	Unknown
Po214	2.3 ± 2.2	1.71	3.18E-03 ± 3.10E-03	Unknown
Po212	10.2 ± 3.8	2.85	0.014 ± 5.31E-03	Unknown
Po210	5,327.4 ± 73.3	29.64	7.399 ± 0.102	Unknown

NUCLIDE ANALYSIS RESULTS

ROI ID	ASSOC NUC	EMM. PROB	ACTIVITY (dpm/samp)	MDA (dpm)
Po218	Po218	1.000	0.057 ± 0.019	4.72E-02
Po214	Po214	1.000	0.010 ± 0.010	3.70E-02
Po212	Po212	1.000	0.046 ± 0.017	4.41E-02
Po210	Po210	1.000	24.335 ± 0.463	1.15E-01

Activity reported as of June 01, 2000 16:18:07

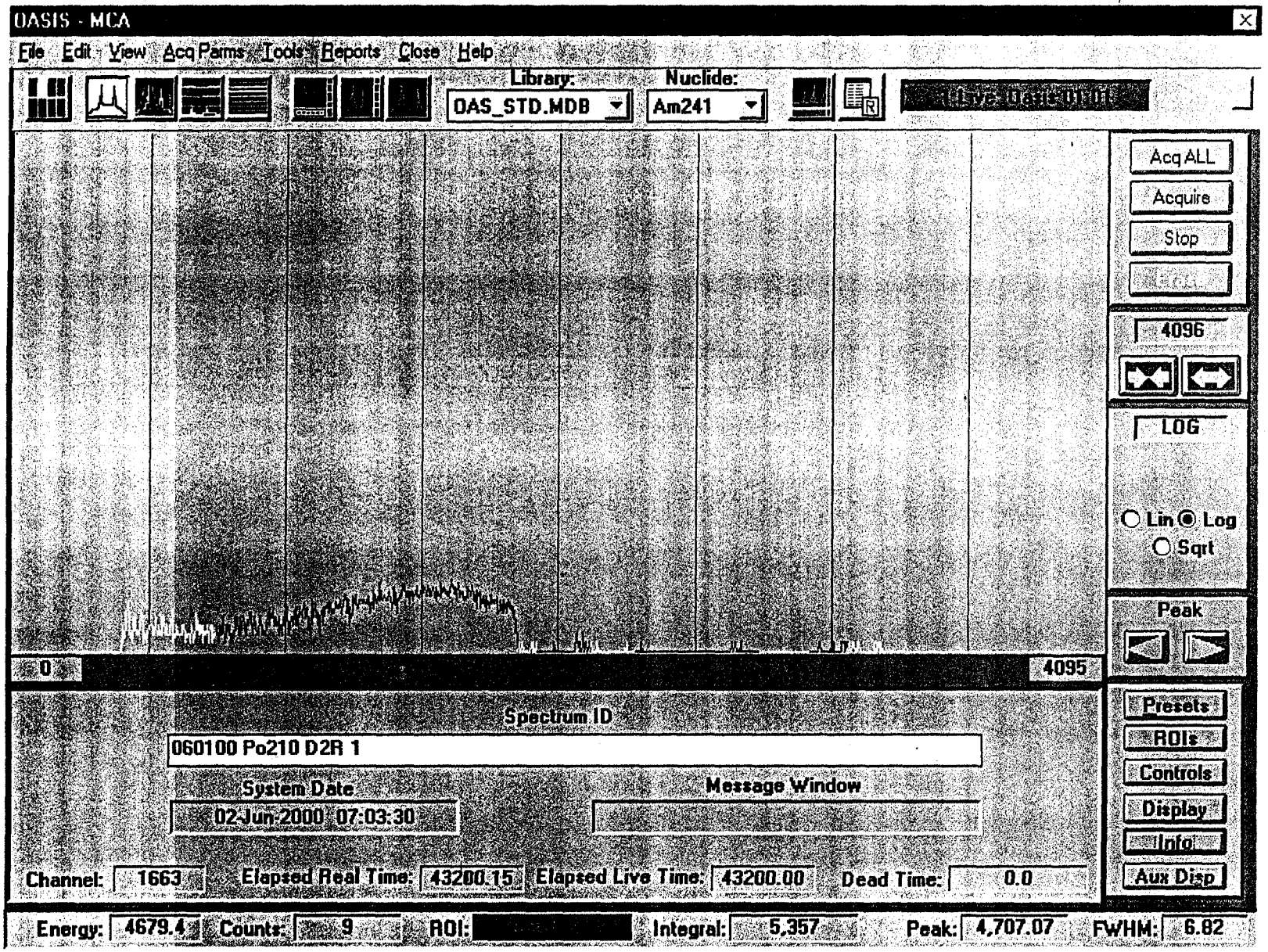
ANALYSIS REVIEWED BY: [signature]

APPROVED BY: [signature] 6/2/00

D2R 1
α 5.0 cpm
β 584 cpm

Electra
S/N 1384
Cal Due. 9-30-00
α Eff. 20.23 / β Eff 3230
BKg 6.0 / BKg 633
MDA 71 / MDA 371

(5)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Nuclide:
Am241
Acq ALL
Acquire
Stop
4096
LOG
Lin Log
Sqrt
Peak
0
4095
Spectrum ID
060100 Po210 D2R 1
System Date
02-Jun-2000 07:03:30
Message Window
Presets
ROIs
Controls
Display
Info
Aux Disp
Channel: 1663
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Elapsed Live Time: 43200.00
Dead Time: 0.0
Energy: 4679.4
Counts: 9
ROI:
Integral: 5,357
Peak: 4,707.07
FWHM: 6.82

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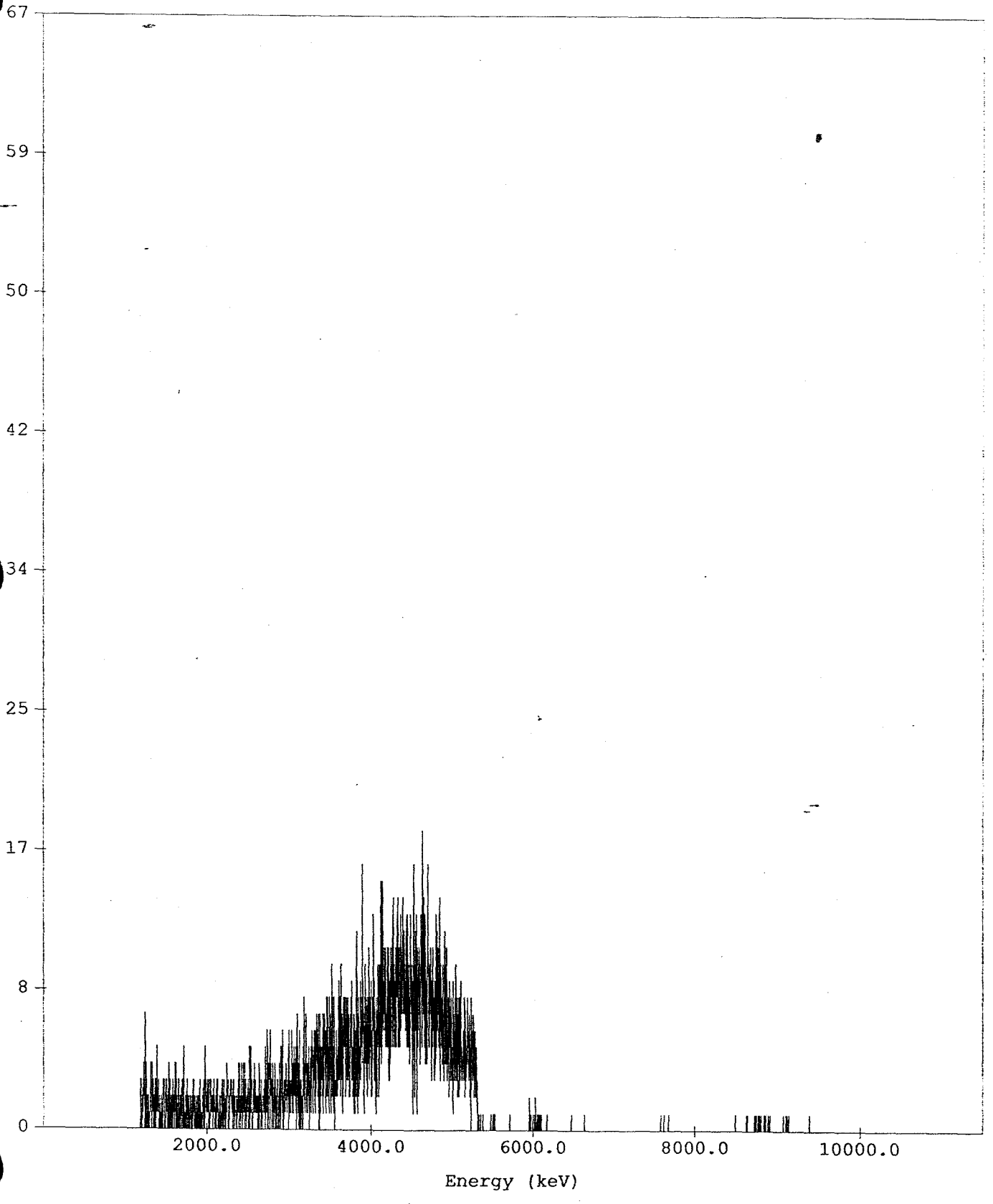
(1): 060100 Po210 D2R 1



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A-2

B331A – Asbestos Inspector's Report

B331A

ASBESTOS INSPECTOR'S REPORT

I, the undersigned Certified Asbestos Inspector, certification # 1387 in the state of Colorado, attest to the asbestos inspection and sampling results as described below, for the following facility (at RFETS): Building 331A.

General Facility Location: north and adjacent to Building 335.

INSPECTION RESULTS
Portions of the walls consist of Transite® (based on visual inspection). Asbestos contained within the Transite is not in friable form, but could become friable if disintegrated.

SAMPLE RESULTS
None required; none taken.

Andre Gonzalez		7/12/00
INSPECTOR'S NAME	SIGNATURE	DATE

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A-3

D&D Facility Characterization Interview Checklist

Type 1 Facility Checklist

D&D Facility Characterization Interview Checklist

ID No.: B-331A
Date: 06/29/99

Groups B & C Series

Check List for - Title: D&D Facility Characterization – Interviews

CRITERIA: Λ *D&D Characterization Protocol*, RFETS MAN-077-DDCP, Rev. 0
Λ *Facility Disposition Program Manual*, RFETS MAN-076-FDPM
Λ RFETS Radiological Safety Practices, January 12, 1998

Facility Name & Type (1, 2, or 3) B-331A, Group B Type 1 Facility, Fire Station Storage and Training
Personnel Interviewed (Name & Title/Function) Timothy J. Parker, Fire Chief, X6043, P-212-3893, Building 331, Room 127, K-H RFETS Plant Fire Department

	– Y/N –
Does a current WSRIC exist for the facility?	N
If so, are there exceptions to the WSRIC as written?	No WSRIC, No Exceptions

COMMENTS (incl. WSRIC contacts)
WSRIC Contact is James M. Schoen who is in charge of the WSRIC Reports, T130J, X3579, C-83.

Are rad surveys available that indicate current status of the facility?	N
Are historical rad surveys available that indicate historical status, or evolution, of the facility?	N*

COMMENT N* According to Mark R. Richards, X5148 ~~of SSOC~~ any Historical data, which is probably at the Federal Center, would not be Adequate for unrestricted release or building demolition. New monitor surveys would have to be taken. JRS. 8/10/2000

Is an HRR available for the facility?	N
Do any other reports exist beyond the HRR (e.g., spill reports, reportable incidents, etc.) that further Characterize the facility relative to chemical &/or radiological contamination?	Y**
Are engineering drawings (esp. "as-builts") available?	N
Are any nonconformances or issues with the facility status currently being tracked in PATS?	N

If so, what are the issues (note in Comments, below)?
COMMENTS N* Radiological surveys may have been done, but the old data is not available. This unit will have to be resurveyed to meet present standards for unrestricted release or building demolition. Y** The Building 331A is sitting on three IHSSs, IHSS 134-North, IHSS 128, and IHSS 171 or PAC area land, as per, Nick Demos, ER Characterization/HRR Manager, X4605. Therefore, the Building 331A does not have CERCLA concerns, but the land it sits on does have CERCLA concerns. Engineering drawings, as-builts, are not available for Building 331. There are no PATS items outstanding for this facility. The Plant quit using lead based paints for office buildings in 1989, Building 331A is not an office building, if the facility was painted prior to 1989, lead based paints may have been used.

Have any types of chemical characterization, incl. Asbestos, been performed recently?	N*

If so, what types of characterization were performed (note in Comments, below)?
COMMENTS N* No asbestos characterization data exists, according to Kevin Sheehan, X7250, T-452D, Room C-1. The asbestos data reports are located in Cubicle C-13, of T-452D and the reports are under the control of Kevin Sheehan.

Interviewed by: J. R. Sheets / J R Sheets / 06/23/99
Print Name / Signature / Interview Date

D&D Facility Characterization Interview Checklist

ID No.: B-331A
Date: 06/29/99

Groups B & C Series

What timeframe did the interviewee work in the facility? N/A Building 331A has been used by the RFETS Plant Fire Station has used this facility for storage and training for approximately 35 years. Building 331A is totally empty and it has not been used for training or storage for approximately one year.

Has the building configuration changed since you worked in the building? If so, in what way? No,
What types of equipment were in the building during the interviewee's time there? When Building 331A was used, Fire Extinguishers were stored in the facility.

Where was the equipment located? (specific rooms/areas) Throughout the building the storage facility on the ground (the facility has no floor, only gravel and 3/4" rock).

Were any radioactive materials or metals handled in the building? If so, what types? No, none.

Which equipment handled radioactive material? N/A

Were any chemicals handled in the building? If so, what types? Yes, CO_2 Fire Extinguishers.

Did any spills or uncontrolled releases of radioactive materials or chemicals occur while you were working in the facility? Unknown

Were these spills/releases cleaned-up? How were they cleaned-up? N/A
Where did these spills/releases occur? N/A

Interviewed by: J. R. Sheets / J.R. Sheets / 06/23/99

Print Name | Signature | Interview Date

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Type 1 Facility Checklist

TYPE 1 FACILITY BUILDING B-331A

CURRENT LANDLORD: RFCSS

DATE OF COMPLETION: 02/29/00

ITEM	YES	NO
Does the facility contain radiological postings?		X
Does the facility contain chemical postings?		X
Are there any installed hazards?		X
Is there any information that indicates this facility was impacted by DOE chemical and/or radiological operations?		X
Are there RCRA units within the facility?		X
Is there a history of the building available?	X	
Is there any equipment/furniture left in the facility?		X
Is there a future mission identified for the facility?		X
Will the facility be left unsecured after it is vacated?		X

If any answer to any of the above questions is "Yes", complete the following questions and complete the "graded" PEP in accordance with Chapter 2.

Note: An answer of "Yes" to any question, specifically one dealing with hazards, ***may*** *indicate the facility is not a Type 1 Facility. Check with the D&D Programs office.*

If the answer to all question is "No" complete the "graded" PEP in accordance with Chapter 2.

1. List the Radiological Hazards, location, and quantity:

   Based on the historical data found and interviews taken there are no hazards in this building.

2. List the Chemical Hazards, location, and quantity:

   None. Based on historical data and interviews taken there are no chemical hazards in this building.

3. List the Physical Hazards:

   NONE

B-1

B987 – Radiological Survey Data for Exterior/Interior Survey Unit

- Summary of Radiological Survey/Sample Results
- Map of Locations
  - Scans
  - Surveys
- Removable and Total Survey Results – Detail

Radiological Survey/Sample Results for B987

Total Surface Activity Measurements dpm/100 cm^2

	Alpha	Beta
Interior/Exterior	# Required	# Obtained
	28	28

MIN	-15.7	-412
MAX	91.4	1017
MEAN	18.9	407.0
STD DEV	23.4	370.9

Exterior	# Required	# Obtained
	N/A	N/A

MIN	N/A	N/A
MAX	N/A	N/A
MEAN	N/A	N/A
STD DEV	N/A	N/A

$DCGL_W$	100	5000

Removable Activity Measurements dpm/100 cm^2

	Alpha	Beta
Interior/Exterior	# Required	# Obtained
	28	28

MIN	-2.1	-41.2
MAX	4.5	52.0
MEAN	0.0	-0.9
STD DEV	1.7	24

Exterior	# Required	# Obtained
	N/A	N/A

MIN	N/A	N/A
MAX	N/A	N/A
MEAN	N/A	N/A
STD DEV	N/A	N/A

$DCGL_W$	20	1000

Media Sample Activity

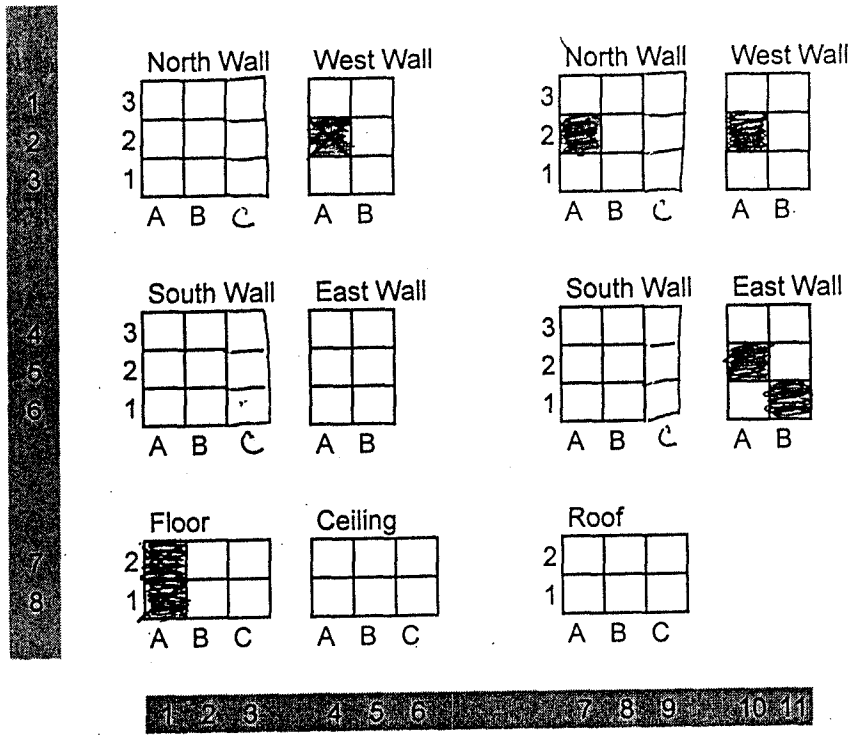
# Required	# Obtained
N/A	N/A

Contaminant	Y/N	Det. Sens. dpm/100 cm^2
U present	N/A	N/A
Pu present	N/A	N/A

Total Po-210 Results dpm/100 cm^2

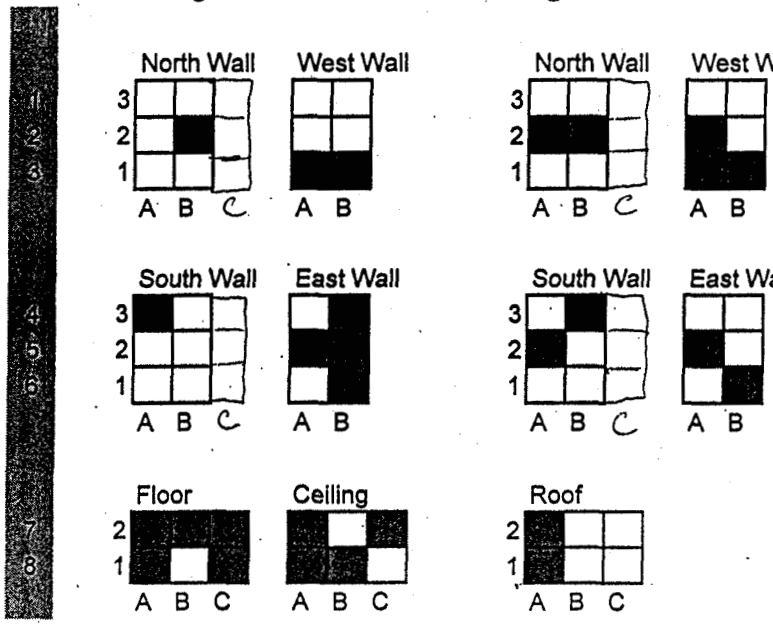
MIN	N/A
MAX	N/A
MEAN	N/A
STD DEV	N/A

SCAN LOCATIONS:



NOTE: ADDED 1 EXTRA MEETER TO ALL NORTH AND SOUTH WALLS.

Bldg. 987 Interior



Bldg. 987 Exterior

Note: 1 meter added to each North + South wall.

X-Coordinate	Y-Coordinate
2	4

= one square meter

= direct & swipe

Total Surface Area = 66 m^2

10% Surface Area = 6.6 m^2

	X	Y		X	Y		X	Y
1	7	2	11	7	7	21	10	3
2	4	3	12	3	7	22	11	6
3	2	7	13	8	4	23	1	4
4	4	7	14	5	8	24	3	8
5	10	5	15	4	8	25	5	3
6	8	2	16	6	7	26	14	3
7	5	6	17	7	8	27	5	4
8	10	2	18	2	2	28	5	5
9	1	7	19	7	5			
10	4	5	20	1	8			

Survey Area: NA	Survey Unit: EXTERIOR	Building: 987
Survey Unit Description	WALLS, ROOF, FLOORS + CEILINGS OF BLDG 987	

Removable Contamination Data Sheet

Sample Location	RCT ID #	Inst ID #		Gross Counts (gcpm)		Net Counts (cpm)		Removable Activity (dpm/100cm2)	
EXTERIOR		α	β	α	β	α	β	α	β
A-2N	1	1	4	0.5	34.5	-0.4	-4.3	-1.2	-17.2
B-2N	1	2	5	0.5	39	0	-2.9	0	-11.6
A-1W	1	3	6	0	39	-0.7	-0.9	-2.1	-3.6
A-2W	1	1	4	0.5	41	-0.4	2.2	-1.2	8.8
B-1W	1	2	5	0.5	35	0	-6.9	0	-27.6
A-2S	1	3	6	1.0	31	0.3	-8.9	0.9	-35.6
B-3S	1	1	4	0.5	33	-0.4	-5.8	-1.2	-23.2
A-2E	1	2	5	1.0	36	0.5	-5.9	1.5	-23.6
B-1E	1	3	6	0.0	43.5	-0.7	3.6	-2.1	14.4
A-1R	1	1	4	0.5	47.5	-0.4	8.7	-1.2	34.8
A-2R	1	2	5	0.5	35.5	0	-6.4	0	-25.6
INTERIOR									
B-2N	5	13	15	0	47	-0.5	7	-1.5	28
[illegible]1W	5	14	16	0.5	39.5	0.1	-0.8	0.3	-3.2
[illegible]1W	5	13	15	0	42.5	-0.5	2.5	-1.5	10
A-3S	5	14	16	1	30	0.6	-10.3	1.8	-41.2
A-2E	5	13	15	1	39.5	0.5	-0.5	1.5	-2
B-1E	5	14	16	0	37	-0.4	-3.3	-1.2	-13.2
B-2E	5	13	15	0.5	36.5	0	-3.5	0	-14
B-3E	5	14	16	0	39	-0.4	-1.3	-1.2	-5.2
A-1F	5	13	15	0	34	-0.5	-6	-1.5	-24
A-2F	5	14	16	1.5	39.5	1.1	-0.8	3.3	-3.2
B-2F	5	13	15	1	42	0.5	2	1.5	8
C-1F	5	14	16	1	44	0.6	3.7	1.8	14.8
C-2F	5	13	15	1	52.5	0.5	12.5	1.5	50
A-1C	5	14	16	0	47	-0.4	6.7	-1.2	26.8
A-2C	5	13	15	0.5	41	0	1	0	4
B-1C	5	14	16	0	39.5	-0.4	-0.8	-1.2	-3.2
C-2C	5	13	15	2	53	1.5	13	4.5	52
						N			
						A			

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Survey Area: N/A	Survey Unit: INT./EXT.	Building: 987
Survey Unit Description: ROOF, WALLS, CEILINGS, & FLOORS OF BUILDING 987		

Total Surface Activity Data Sheet

Sample location	RCT ID #	Inst ID #		Survey count time (sec)		LAB (cpm)		Gross Count (gcpm)		Net counts (cpm)		Net Activity (dpm/100cm2)		
		α	β	α	β	α	β	α	β	α	β	α	β	
EXTERIOR				90	90									
A-2N	1	7	7	90	90	4	459	11.3	601	7.3	142	32.7	468	
B-2N	1	7	7	90	90	1.3	456	8	331	6.7	-125	30.0	-412	
A-1W	1	7	7	90	90	3.3	473	5.3	582	2.0	109	8.9	359	
A-2W	1	7	7	90	90	5.3	479	7.3	591	2.0	112	8.9	369	
B-1W	1	7	7	90	90	2	457	10	613	8.0	156	35.8	514	
A-2S	2	8	8	90	90	6.7	377	9.3	375	2.6	-2	12.4	~~TB 5-24-00~~	40
B-3S	2	8	8	90	90	11.3	365	8	561	-3.3	196	-15.7	~~TB 5-24-00~~ 32.8	65
A-2E	2	8	8	90	90	8	387	12	549	4.0	162	19.0	~~TB 5-24-00~~	54
B-1E	2	8	8	90	90	4	416	6	559	2.0	143	9.5	~~TB 5-24-00~~	47
A-1R	3	9	9	90	90	2	432	20.7	577	18.7	145	91.9	488	
A-2R	3	9	9	90	90	1.3	422	18.7	563	17.4	141	85.0	475	
INTERIOR				90	90									
2N	5	11	11	90	90	2.7	570	6	704	3.3	134	16.1	451	
A-1W	5	11	11	90	90	4	589	8	792	4.0	203	19.6	684	
B-1W	5	11	11	90	90	2	569	4.7	831	2.7	262	13.2	882	
A-3S	5	11	11	90	90	0.7	603	4.7	641	4.0	38	19.6	128	
A-2E	5	11	11	90	90	3.3	542	8.7	738	5.4	196	26.4	660	
B-1E	5	11	11	90	90	1.3	634	6	827	4.7	193	23.0	650	
B-2E	5	11	11	90	90	1.3	576	4.7	701	3.4	125	16.6	421	
B-3E	5	11	11	90	90	2.7	609	5.3	670	2.6	61	12.7	205	
A-1F	5	11	11	90	90	0.7	578	7.3	839	6.6	261	32.3	879	
A-2F	5	11	11	90	90	2	599	4	853	2.0	254	9.8	855	
B-2F	5	11	11	90	90	2.7	551	5.3	803	2.6	252	12.7	848	
C-1F	5	11	11	90	90	2.7	589	8	891	5.3	302	25.9	1017	
C-2F	4	10	10	90	90	5.3	600	6	702	0.7	102	3.4	~~TB 5-24-00~~ 545	35
A-1C	4	10	10	90	90	6.7	490	4.7	431	-2.0	-59	~~TB 5-24-00~~ 1.0 9.6	~~TB 5-24-00~~	-20
A-2C	4	10	10	90	90	4	492	3.3	458	-0.7	-34	-3.4	~~TB 5-24-00~~	-11
A-2W QC	8	12	12	90	90	4.7	355	13.3	536	8.6	181	38.5	~~TB 5-24-00~~ 576	63
B-2N QC	8	12	12	90	90	2	460	3.3	361	1.3	-99	5.8	-326	
A-2N QC	8	12	12	90	90	2.7	475	13.3	542	10.6	67	47.4	221	
A-2E QC	8	12	12	90	90	2	425	9.3	550	7.3	125	32.7	412	
B-1E QC	8	12	12	90	90	3.3	433	6	536	2.7	103	12.1	339	

Note: QC measurements are to be collected by a different technician than the original survey. Mark the QC location number in the "Sample Location" column. Material background is assumed to be zero unless otherwise noted. "LAB" ~ local area background.

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Survey Area: N/A	Survey Unit: INT. / EXT.	Building: 987
Survey Unit Description: BLDG. 987 TSA's + QC TSA's.		

Total Surface Activity Data Sheet

Sample location	RCT ID #	Inst ID #		Survey count time (sec)		LAB (cpm)		Gross Count (gcpm)		Net counts (cpm)		Net Activity (dpm/100cm2)	
		α	β	α	β	α	β	α	β	α	β	α	β
INTERIOR (CONT.)				90	90								
B-1C	4	10 ~~4~~	10	90	90	3.3	475	3.3	431	0	-44	0	-153
C-2C	4	10	10	90	90	4	460	2.7	433	-1.3	-27	-6.2	-94
				90	90								
				90	90								
				90	90								
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INTERIOR QC CHECKS				90	90								
A-1W QC	8	12	12	90	90	6.7	415	4	706	-2.7	291	-12.1	958
B-1W QC	8	12	12	90	90	1.3	448	2	677	0.7	229	3.1	754
B-2N QC	8	12	12	90	90	2	415	0.7	577	-1.3	162	-5.8	534
B-2E QC	8	12	12	90	90	2	431	5.3	643	3.3	212	14.8	698
?-2E QC	8	12	12	90	90	2.7	395	6	694	3.3	299	14.8	985

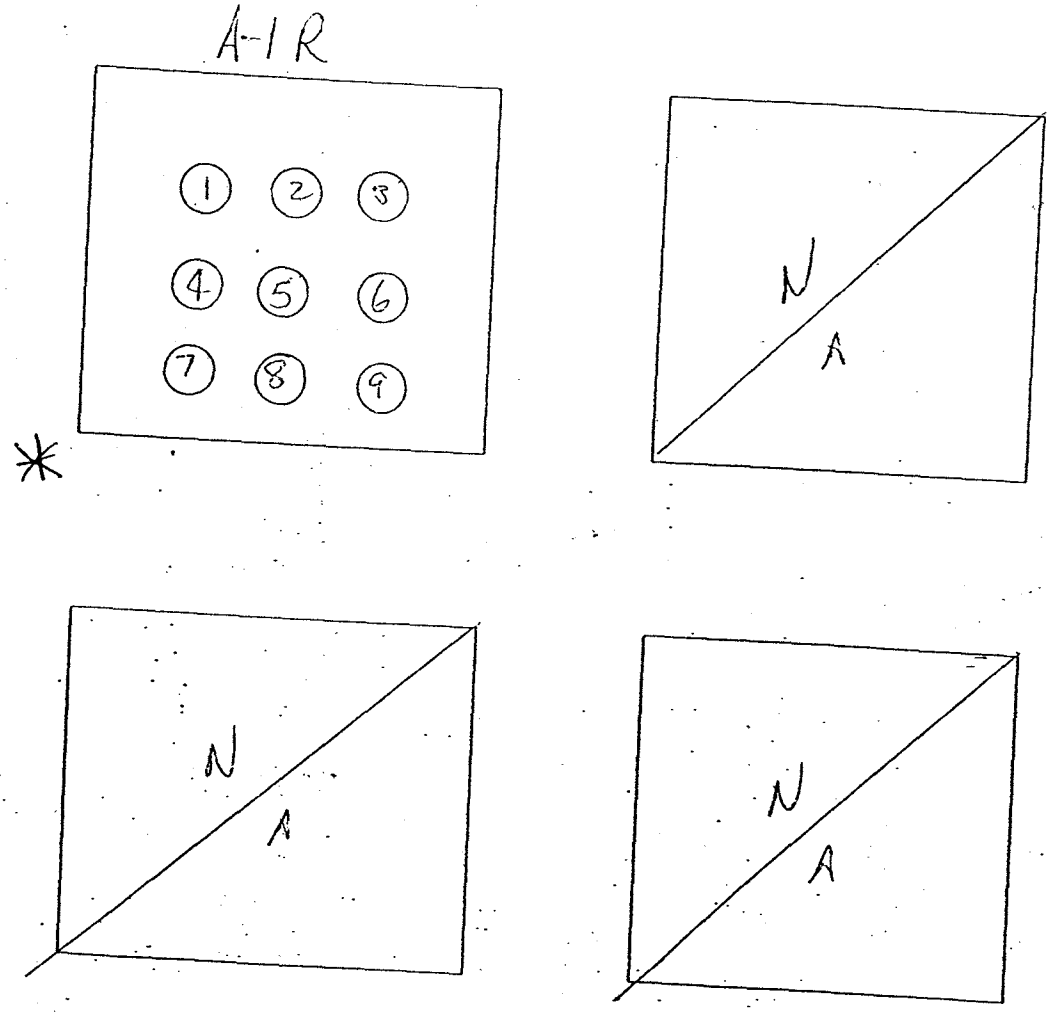
Note: QC measurements are to be collected by a different technician than the original survey. Mark the QC location number in the "Sample Location" column. Material background is assumed to be zero unless otherwise noted. "LAB" ~ local area background.

Final Survey NE Electra
Scan & Investigation Survey Map

Survey Area: N/A	Survey Unit: EXTERIOR	Building: 987
Survey Unit Description: 9-POINT INVESTIGATION		
RCT Initials/Date: [illegible] 3/11/00	RCT Initials/Date: N/A	RCT Initials/Date: N/A

Refer to the Final Survey NE Electra Scan & Investigation Survey Form for instrumentation, surveyor & approval information.

Legend: "R"- Roof, "W" – West Wall, "S" – South Wall, "E" – East Wall, "N" – North Wall "C" –Ceiling, "F" - Floor



*** Designates corner closest to A-1 point of reference**

Results/Comments:
Electra alpha scans were performed at the locations detailed on the survey map(s). All required accessible areas were scanned. All initial scan results were <225 dpm/100cm², unless noted on the survey form.
Electra beta scans were performed in required accessible areas. Initial scan results indicated no detectable activity above background unless noted on the survey form.

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Final Survey NE Electra
Scan & Investigation Survey Form

Survey Area:	Survey Unit:	Building:
N/A	EXTERIOR	987

Survey Unit Description: 1 M2 SCAN SURVEY

Loc. ID #	Electra DP-6 Beta				Electra DP-6 Alpha				
	RCT ID #	Inst. ID #	Elevated Audible observed? "Y" or "N"	60-sec PAT (dpm/100cm2)	RCT ID #	Inst. ID #	4-sec Audible observed? "Y" or "N"	30-sec Static (gcpm)	90-sec PAT (dpm/100cm²)
GRID INVESTIGATION									
A-1 R1					1	7			68
A-1 R2					1	7			55
A-1 R3					1	7			91
A-1 R4			N/A		1	7	N/A		104
A-1 R5					1	7			52
A-1 R6					1	7			72
A-1 R7					1	7			72
A-1 R8					1	7			85
A-1 R9					1	7			65
							N/A		

1M²A
73.8d
100

A
a

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4 of 4

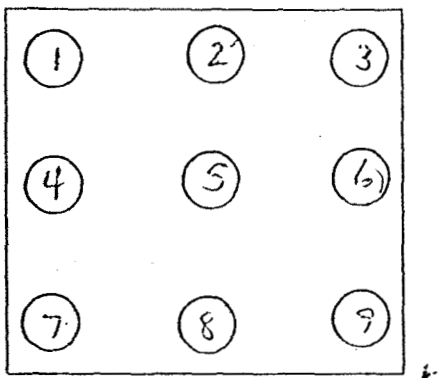
Final Survey NE Electra
Scan & Investigation Survey Map

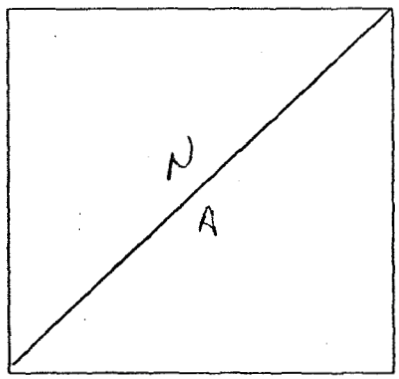
Survey Area: N/A	Survey Unit: EXTERIOR	Building: 987
Survey Unit Description: BLDG. 987 EXTERIOR, ROOF (INVESTIGATION)		
RCT Initials/Date: [illegible] 5/31/00	RCT Initials/Date: N/A	RCT Initials/Date: N/A

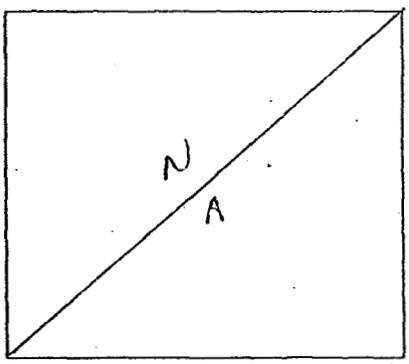
Refer to the Final Survey NE Electra Scan & Investigation Survey Form for instrumentation, surveyor & approval information.

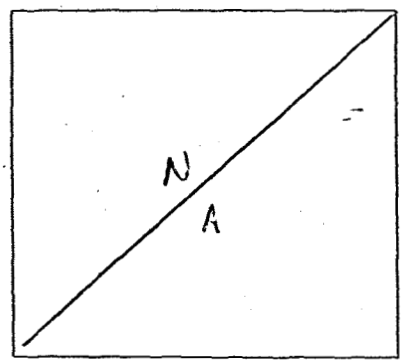
Legend: "R"- Roof, "W" – West Wall, "S" – South Wall, "E" – East Wall, "N" – North Wall "C" –Ceiling, "F" - Floor

A 2 R









*** Designates corner closest to A-1 point of reference**

Results/Comments:
Electra alpha scans were performed at the locations detailed on the survey map(s). All required accessible areas were scanned. All initial scan results were <225 dpm/100cm^2, unless noted on the survey form.
Electra beta scans were performed in required accessible areas. Initial scan results indicated no detectable activity above background unless noted on the survey form.

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Survey Area: N/A	Survey Unit: EXTERIOR	Building: 987
Survey Unit Description	EXTERIOR ROOF (INVESTIGATION)	

Removable Contamination Data Sheet

Sample location	RCT ID #	Inst ID #		Gross Counts (gcpm)		Net Counts (cpm)		Removeable Activity (dpm/100cm2)	
		α	β	α	β	α	β	α	β
A2R-1	1	1	2	0.2	4.2	-0.1	-33.1	-0.3	-132
A2R-2	1	1	2	0.7	4.2	0.4	-33.1	1.2	-132
A2R-3	1	1	2	0.2	5.7	-0.1	-31.6	-0.3	-126
A2R-4	1	1	2	0.7	6.7	0.4	-30.6	1.2	-122
A2R-5	1	1	2	-0.3	1.2	-0.6	-36.1	-1.8	-144
A2R-6	1	1	2	0.2	-5.3	-0.1	-42.6	-0.3	-170
A2R-7	1	1	2	-0.3	2.7	-0.6	-34.6	-1.8	-138
A2R-8	1	1	2	0.2	7.7	-0.1	-29.6	-0.3	-118
A2R-9	1	1	2	-0.3	6.2	-0.6	-31.1	-1.8	-124
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0

Survey Area: N/A	**Survey Unit:** EXTERIOR	**Building:** 987
Survey Unit Description. EXTERIOR ROOF (INVESTIGATION)		

Total Surface Activity Data Sheet

Sample location	RCT ID #	Inst ID #		Survey count time (sec)		Gross Count (gcpm)		LAB (cpm)		Net counts (cpm)		Net Activity (dpm/100cm2)	
		α	β	α	β	α	β	α	β	α	β	α	β
A2R-1	1	7	7	90	90	20.7	660	5.0	492	15.7	168	76.7	566
A2R-2	1	7	7	90	90	14.7	663	5.0	492	9.7	171	47.4	576
A2R-3	1	7	7	90	90	20.7	605	5.0	492	15.7	113	76.7	380
A2R-4	1	7	7	90	90	20.7	623	5.0	492	15.7	131	76.7	441
A2R-5	1	7	7	90	90	16.0	620	5.0	492	11.0	128	53.8	431
A2R-6	1	7	7	90	90	18.7	643	5.0	492	13.7	151	67.0	508
A2R-7	1	7	7	90	90	20.7	617	5.0	492	15.7	125	76.7	421
A2R-8	1	7	7	90	90	20.0	610	5.0	492	15.0	118	73.3	397
A2R-9	1	7	7	90	90	15.3	603	5.0	492	10.3	111	50.3	374
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
QC				90	90					0.0	0	0.0	0
QC				90	90					0.0	0	0.0	0
QC				90	90					0.0	0	0.0	0
QC				90	90					0.0	0	0.0	0
QC				90	90					0.0	0	0.0	0

[illegible]e: QC measurements are to be collected by a different technician than the original survey. Mark the QC location number in the "Sample Location" column. Material background is assumed to be zero unless otherwise noted. "LAB"~ local area background.

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B-2

B987 – Asbestos Inspector's Report

B987

ASBESTOS INSPECTOR'S REPORT

I, the undersigned Certified Asbestos Inspector, certification # 1387 in the state of Colorado, attest to the asbestos inspection and sampling results as described below, for the following facility (at RFETS): Building 987.

General Facility Location: due west of Building 991, outside of protected area.

INSPECTION RESULTS

The roof consists of Transite®, based on visual inspection, and could become friable if disintegrated; the remainder of the building consists of cinder block construction.

SAMPLE RESULTS

None required; none taken.

Andre Gonzales		7/12/00
INSPECTOR'S NAME	SIGNATURE	DATE

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B-3

D&D Facility Characterization Interview Checklist

Type 1 Facility Checklist

D&D Facility Characterization Interview Checklist

ID No.: B-987
Date: 06/09/99

Groups B & C Series

Check List for - Title: D&D Facility Characterization – Interviews

CRITERIA:
- Λ *D&D Characterization Protocol*, RFETS MAN-077-DDCP, Rev. 0
- Λ *Facility Disposition Program Manual*, RFETS MAN-076-FDPM
- Λ RFETS Radiological Safety Practices, January 12, 1998

Facility Name & Type (1, 2, or 3) B-987, Group C Type 1 Facility, Storage Vault (WSI Plant Protection)
Personnel Interviewed (Name & Title/Function) Lou C. Richmond, Team Lead Operations Services, X8361, P-212-6598, T-119B, Cubicle 72, WSLLC

	-- Y/N --
Does a current WSRIC exist for the facility?	N
If so, are there exceptions to the WSRIC as written?	No WSRIC, No Exceptions

COMMENTS (incl. WSRIC contacts)
WSRIC Contact is James M. Schoen who is in charge of the WSRIC Reports, T130J, X3579, C-83.

Are rad surveys available that indicate current status of the facility?	N
Are historical rad surveys available that indicate historical status, or evolution, of the facility?	N*

COMMENT N* According to Mark R. Richards, X5148 of ~~SSOC~~ any JRS 8/10/2000
Historical data, which is probably at the Federal Center, would not be Adequate for unrestricted release. New monitor surveys would have to be taken.

Is an HRR available for the facility?	N
Do any other reports exist beyond the HRR (e.g., spill reports, reportable incidents, etc.) that further Characterize the facility relative to chemical &/or radiological contamination?	Y**
Are engineering drawings (esp. "as-builts") available?	N
Are any nonconformances or issues with the facility status currently being tracked in PATS?	N

If so, what are the issues (note in Comments, below)?
COMMENTS N* Radiological surveys may have been done, but the old data is not available. This unit will have to be resurveyed to meet present standards for unrestricted release. Y** The Building 987 is not sitting on IHSS or PAC area land, as per, Nick Demos, ER Characterization/HRR Manager, X4605. Therefore, the Building 987 does not have CERCLA concerns. Engineering drawings, as-builts, do not exist for Building 987. There are no PATS items outstanding for this facility. The Plant quit using lead based paints for office buildings in 1989, Building 987 is a storage vault not an office building, if the facility was painted prior to 1989, lead based paints may have been used.

Have any types of chemical characterization, incl. Asbestos, been performed recently?	N*

If so, what types of characterization were performed (note in Comments, below)?
COMMENTS N* No asbestos characterization data exists, according to Kevin Sheehan, X7250, T-452D, Room C-1. The asbestos data reports are located in Cubicle C-13, of T-452D and the reports are under the control of Kevin Sheehan.

Interviewed by: J. R. Sheets / J R Sheets / 06/08/99
Print Name / Signature / Interview Date

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Type 1 Facility Checklist

TYPE 1 FACILITY BUILDING B-987

CURRENT LANDLORD: RMRS

DATE OF COMPLETION: 02/29/00

ITEM	YES	NO
Does the facility contain radiological postings?		X
Does the facility contain chemical postings?		X
Are there any installed hazards?		X
Is there any information that indicates this facility was Impacted by DOE chemical and/or radiological operations?		X
Are there RCRA units within the facility		X
Is there a history of the building available?	X	
Is there any equipment/furniture left in the facility?		X
Is there a future mission identified for the facility?		X
Will the facility be left unsecured after it is vacated?		X

If any answer to any of the above questions is "Yes", complete the following questions and complete the "graded" PEP in accordance with Chapter 2.

Note: An answer of "Yes" to any question, specifically one dealing with hazards, ***may*** *indicate the facility is not a Type 1 Facility. Check with the D&D Programs office.*

If the answer to all question is "No" complete the "graded" PEP in accordance with Chapter 2.

1. List the Radiological Hazards, location, and quantity:

   Based on the historical data found and interviews taken there are no hazards in this building.

2. List the Chemical Hazards, location, and quantity:

   None. Based on historical data and interviews taken there are no chemical hazards in this building. There may be asbestos in the roof as it is Transite (ACM).

3. List the Physical Hazards:

   NONE

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C-1

T331A – Radiological Survey Data for Exterior Survey Unit

- Summary of Radiological Survey/Sample Results
- Map of Locations
  - Scans
  - Surveys
- Removable and Total Survey Results – Detail
- Laboratory Alpha Spec (Sample) Results – Detail

Radiological Survey/Sample Results for T331A

Total Surface Activity Measurements dpm/100 cm^2

	Alpha	Beta
Interior	# Required	# Obtained
	28	28
MIN	-16.6	-458
MAX	79.9	125
MEAN	7.5	-82.7
STD DEV	16.4	172.8
Exterior	# Required	# Obtained
	28	28
MIN	-22.3	-481
MAX	149.6	301
MEAN	59.7	-21.8
STD DEV	61.0	194.4
$DCGL_W$	100	5000

Removable Activity Measurements dpm/100 cm^2

	Alpha	Beta
Interior	# Required	# Obtained
	28	28
MIN	-1.5	-32.8
MAX	4.5	46.4
MEAN	0.1	2
STD DEV	1.6	17.2
Exterior	# Required	# Obtained
	28	28
MIN	-1.5	-24.8
MAX	4.5	46.8
MEAN	1.2	4.6
STD DEV	1.7	16.1
$DCGL_W$	20	1000

Media Sample Activity

# Required	# Obtained
2	2

Contaminant	Y/N	Det. Sens. dpm/100 cm^2
U present	N	75
Pu present	N	75

Total Po-210 Results dpm/100 cm^2

MIN	197.5
MAX	222.2
MEAN	209.9
STD DEV	8.8

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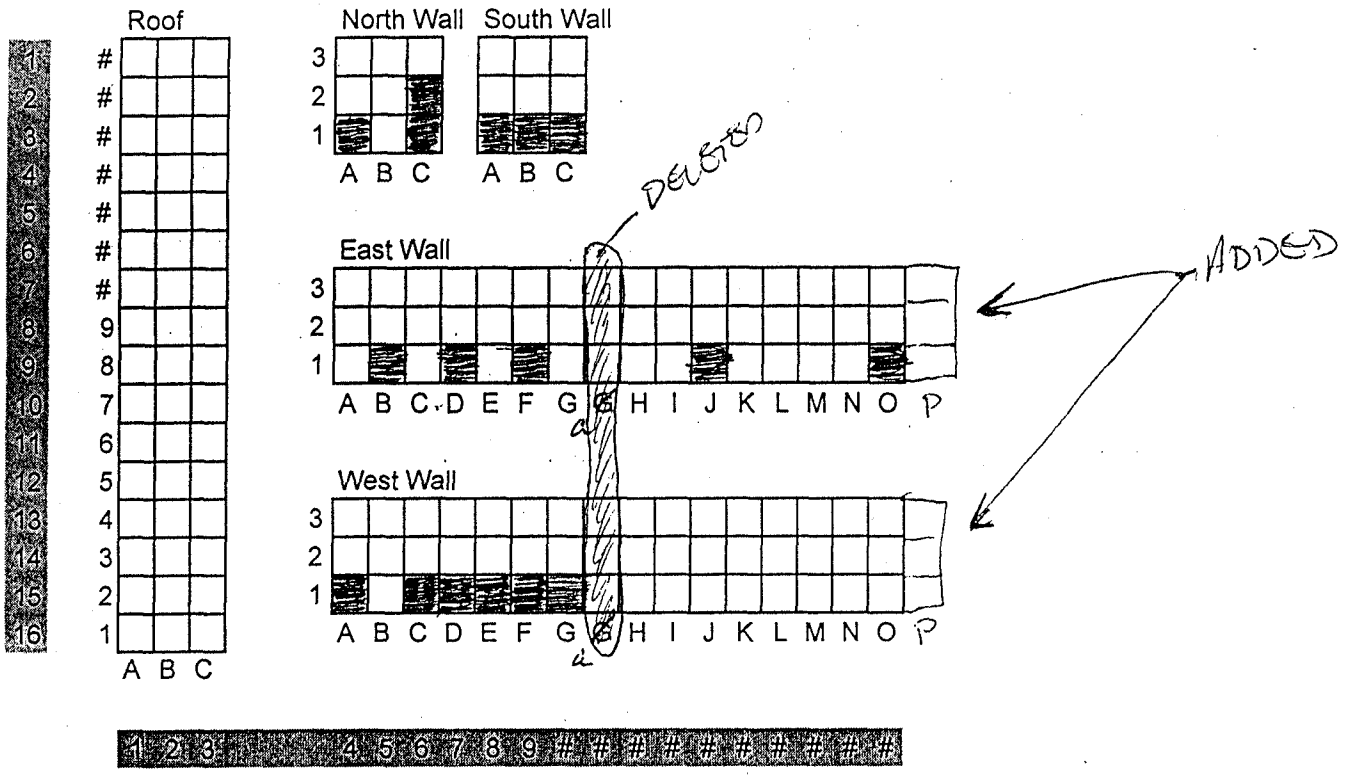
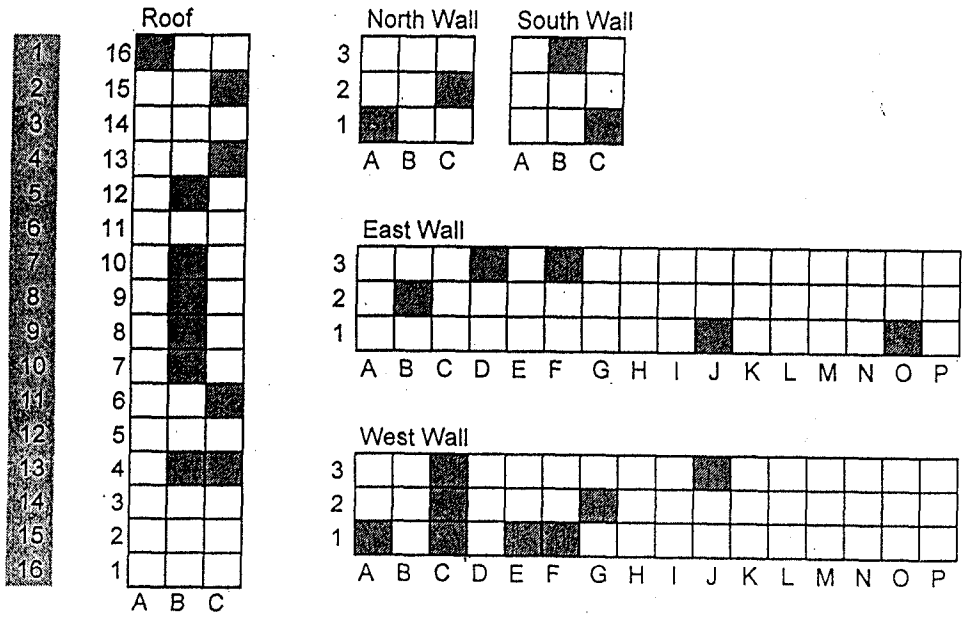
T331A Exterior

SCAN LOCATIONS



T331A Exterior



X-Coordinate	Y-Coordinate
13	6

= one square meter

= direct & swipe

Total Surface Area = 162 m^2

10% Scan Surface Area = 16.2 m^2

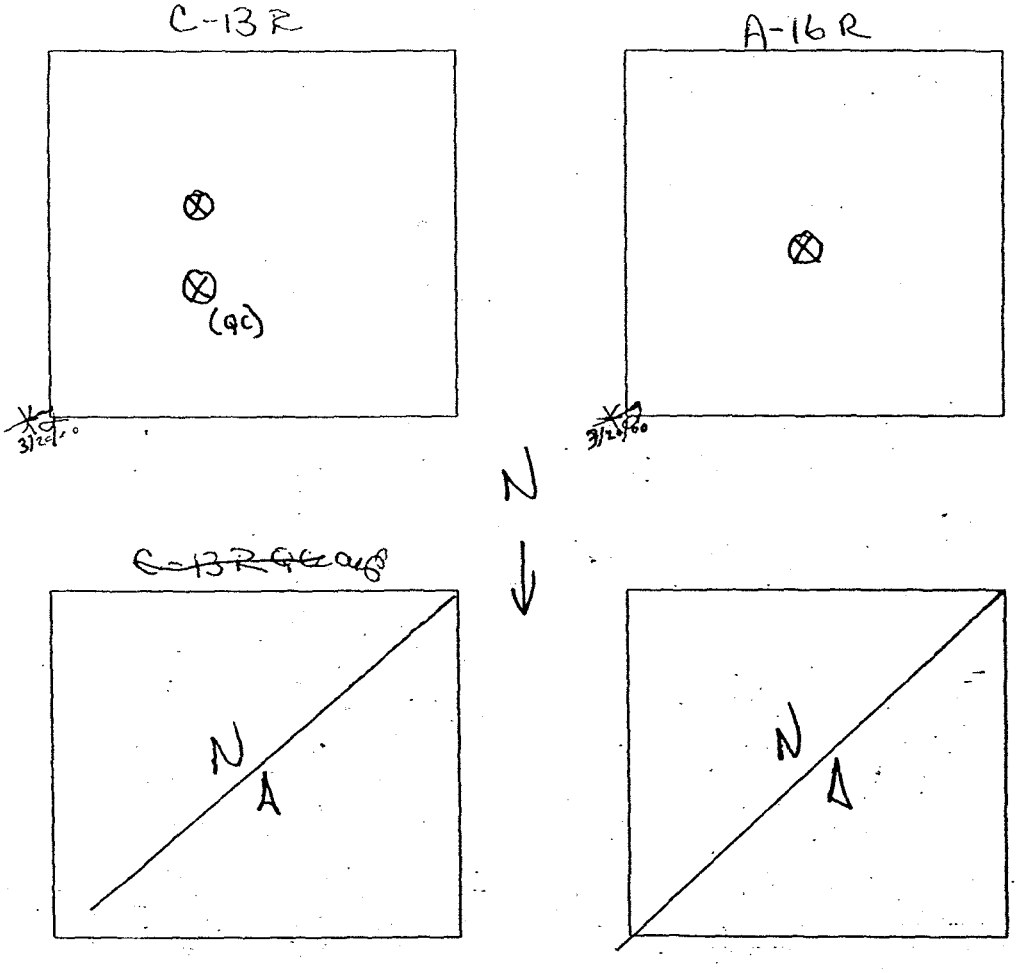
	X	Y		X	Y		X	Y
1	2	9	11	3	13	21	6	2
2	13	9	12	9	7	22	5	8
3	10	3	13	3	2	23	2	8
4	3	4	14	3	11	24	6	13
5	10	14	15	2	10	25	6	14
6	2	5	16	7	7	26	6	15
7	9	1	17	18	9	27	2	13
8	2	7	18	9	15	28	4	3
9	13	13	19	1	1			
10	4	15	20	8	15			

Final Survey NE Electra
Scan & Investigation Survey Map

Survey Area: N/A	Survey Unit: EXTERIOR	Building: T331A
Survey Unit Description: ROOF SAMPLE LOCATION		
RCT Initials/Date: [illegible] 3/28/00	RCT Initials/Date: NA	RCT Initials/Date: NA

Refer to the Final Survey NE Electra Scan & Investigation Survey Form for instrumentation, surveyor & approval information.

Legend: "R"- Roof, "W" – West Wall, "S" – South Wall, "E" – East Wall, "N" – North Wall "C" –Ceiling, "F" - Floor



⊗ Sample Cut Out

*** Designates corner closest to A-1 point of reference**

Results/Comments:
Electra alpha scans were performed at the locations detailed on the survey map(s). All required accessible areas were scanned. All initial scan results were <225 dpm/100cm^2, unless noted on the survey form.
Electra beta scans were performed in required accessible areas. Initial scan results indicated no detectable activity above background unless noted on the survey form.

Survey Area: N/A	Survey Unit: EXTERIOR	Building: T331A
Survey Unit Description: ROOF + WALLS OF TRAILER T331A.		

Removable Contamination Data Sheet

Sample Location	RCT ID #	Inst ID #		Gross Counts (gcpm)		Net Counts (cpm)		Removable Activity (dpm/100cm2)	
		α	β	α	β	α	β	α	β
A-16R	S	1	4	0.5	40.5	0.2	0.2	0.6	0.8
B-4R	S	2	5	0.5	41	0	2.7	0	10.8
B-7R	S	3	6	1.5	47.5	1.1	7.3	3.3	29.2
B-8R	S	1	4	0.5	44	0.2	3.7	0.6	14.8
B-9R	S	2	5	2	41.5	1.5	3.2	4.5	12.8
B-10R	S	3	6	1	34	0.6	-6.2	1.8	-24.8
B-12R	S	1	4	0	34.5	-0.3	-5.8	-0.9	-23.2
C-4R	S	2	5	1.5	50	1	11.7	3	46.8
C-6R	S	3	6	0.5	39.5	0.1	-0.7	0.3	-2.8
C-13R	S	1	4	1	44.5	0.7	4.2	2.1	16.8
C-15R	S	2	5	1	39	0.5	+0.7	1.5	+2.8
A-1N	S	3	6	1	39.5	0.6	-0.7	1.8	-2.8
C-2N	S	1	4	1	38.5	0.7	-1.8	2.1	-7.2
C-3S	S	2	5	0	46	-0.5	7.7	-1.5	30.8
A-1XS	S	3	6	0.5	44	0.1	3.8	0.3	15.2
B-2E	S	1	4	0	39	-0.3	-1.3	-0.9	-5.2
D-3E	S	2	5	1.5	41.5	1	3.2	3	12.8
F-3E	S	3	6	1	43	0.6	2.8	1.8	11.2
J-1E	S	1	4	0.5	41.5	0.2	1.2	0.6	4.8
O-1E	S	2	5	0	38	-0.5	-0.3	-1.5	-1.2
A-1W	S	3	6	1	37	0.6	-3.2	1.8	-12.8
C-1W	S	1	4	1	40	0.7	-0.3	2.1	-1.2
C-2W	S	2	5	1.5	39.5	1	1.2	3	4.8
C-3W	S	3	6	1	36.5	0.6	-3.7	1.8	-14.8
E-1W	S	1	4	1	42.5	0.7	2.2	2.1	8.8
F-1W	S	2	5	0	41.5	-0.5	3.2	-1.5	12.8
G-2W	S	3	6	1.5	41.5	1.1	1.3	3.3	5.2
J-3W	S	1	4	0	36	-0.3	-4.3	-0.9	-17.2

N/A

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Survey Area: N/A	Survey Unit: EXTERIOR	Building: T331A
Survey Unit Description: Roof + Walls of TRAILER T331A.		

Total Surface Activity Data Sheet

Sample location	RCT ID #	Inst ID #		Survey count time (sec)		LAB (cpm)		Gross Count (gcpm)		Net counts (cpm)		Net Activity (dpm/100cm2)	
		α	β	α	β	α	β	α	β	α	β	α	β
A-16R	1	7	7	90	90	4	567	39.3	558	35.3	-9	172.5	-30
B-4R	1	7	7	90	90	2.7	532	32	510	29.3	-22	143.2	-74
B-7R	1	7	7	90	90	2.7	506	33.3	511	30.6	5	149.6	17
B-8R	1	7	7	90	90	3.3	492	27.3	477	24	-15	117.3	-51
B-9R	1	7	7	90	90	2	458	20.7	532	18.7	74	91.4	249
B-10R	1	7	7	90	90	2	460	22	516	20	56	97.8	189
B-12R	1	7	7	90	90	2.7	446	25.3	487	22.6	41	110.5	138
C-4R	1	7	7	90	90	1.3	512	30.7	512	29.4	0	143.7	0
C-6R	1	7	7	90	90	3.3	570	29.3	521	26	11	127.1	37
C-13R	1	7	7	90	90	4	511	34	505	30	-6	146.6	-20
C-15R	1	7	7	90	90	3.3	573	29.3	483	26	-90	127.1	-303
A-1N	2	8	8	90	90	2	414	11.3	366	9.3	-48	41.6	-158
C-2N	2	8	8	90	90	3.3	394	7.3	378	4	-16	17.9	-53
C-3S	2	8	8	90	90	2	458	10	345	8	-113	35.8	-372
C-1S	2	8	8	90	90	3.3	494	4	348	0.7	-146	3.1	-481
B-2E	3	9	9	90	90	13.3	286	12.7	337	-0.6	51	-2.9	171
D-3E	3	9	9	90	90	8	397	12.7	342	4.7	-55	22.3	-184
F-3E	3	9	9	90	90	8	373	14.7	355	6.7	-18	31.9	-60
S-1E	3	9	9	90	90	10.7	338	6	349	-4.7	11	-22.3	37
O-1E	3	9	9	90	90	13.3	316	12	320	-1.3	4	-6.2	13
A-1W	4	10	10	90	90	4.7	458	4.7	330	0	-128	0	-428
C-1W	4	10	10	90	90	8	313	10	327	2	14	9.3	47
C-2W	4	10	10	90	90	7.3	382	4.7	363	-2.6	-19	-12.1	-63
C-3W	4	10	10	90	90	5.3	375	8	399	2.7	24	12.6	80
E-1W	4	10	10	90	90	27	303	12	395	9.3	90	43.3	301
F-1W	4	10	10	90	90	6	305	10	356	4	57	18.6	170
G-2W	4	10	10	90	90	4	366	10	419	6	53	27.9	177
S-3W	4	10	10	90	90	4.7	347	10	359	5.3	12	24.7	40
A-1W QC	8	13	13	90	90	2.7	342	9.3	365	6.6	23	32.3	77
O-1E QC	8	13	13	90	90	1.3	360	8	361	6.7	1	32.7	3
C-2W QC	8	13	13	90	90	3.3	344	11.2	391	7.9	47	38.6	158
A-1W QC	8	13	13	90	90	2	314	8	347	6	33	29.3	111
C-1W QC	8	13	13	90	90	2	410	12.7	331	10.7	-79	52.3	-266

Note: QC measurements are to be collected by a different technician than the original survey. Mark the QC location number in the "Sample Location" column. Material background is assumed to be zero unless otherwise noted. "LAB" ~ local area background.

Survey Area: NA	Survey Unit: EXTERIOR	Building: T331A
Survey Unit Description ROOF SAMPLE LOCATIONS		

Removable Contamination Data Sheet

Sample location	RCT ID #	Inst ID #		Gross Counts (gcpm)		Net Counts (cpm)		Removeable Activity (dpm/100cm2)	
		α	β	α	β	α	β	α	β
PRE						0	0	0.0	0
C-13R	1	1	2	0	38.5	-0.5	0.4	-1.5	2
POST						0	0	0.0	0
C-13R	1	1	2	0.5	44	0	5.9	0.0	24
PRE						0	0	0.0	0
C-13RQC	1	3	4	0.5	36.5	-0.1	-2.3	-0.3	-9
POST						0	0	0.0	0
C-13RQC	1	3	4	0	43.5	-0.6	4.7	-1.8	19
PRE						0	0	0.0	0
A-16R	1	1	2	0	45.5	-0.5	7.4	-1.5	30
POST						0	0	0.0	0
A-16R	1	3	4	1.5	44.5	0.9	5.7	2.7	23
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0

N/A

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Survey Area: NA	**Survey Unit:** EXTERIOR	**Building:** T331A
Survey Unit Description ROOF SAMPLE LOCATIONS		

Total Surface Activity Data Sheet

Sample location	RCT ID #	Inst ID #		Survey count time (sec)		Gross Count (gcpm)		LAB (cpm)		Net counts (cpm)		Net Activity (dpm/100cm2)	
		α	β	α	β	α	β	α	β	α	β	α	β
PRE				90	90					0.0	0	0.0	0
C-13R	1	7	7	90	90	32.7	515	4.7	424	28.0	91	134.3	304
POST				90	90					0.0	0	0.0	0
C-13R	1	7	7	90	90	24.0	519	2.7	357	21.3	162	102.2	542
PRE				90	90					0.0	0	0.0	0
C-13RQC	2	8	8	90	90	24.7	551	3.3	491	21.4	60	104.6	202
POST				90	90					0.0	0	0.0	0
C-13RQC	2	8	8	90	90	29.3	541	6.0	452	23.3	89	113.9	300
PRE				90	90					0.0	0	0.0	0
A-16R	1	7	7	90	90	33.3	489	2.7	470	30.6	19	146.8	64
POST				90	90					0.0	0	0.0	0
A-16R	1	7	7	90	90	39.3	483	8.0	451	31.3	32	150.1	107
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
QC				90	90					0.0	0	0.0	0
QC				90	90					0.0	0	0.0	0
QC				90	90					0.0	0	0.0	0
QC				90	90					0.0	0	0.0	0
QC				90	90					0.0	0	0.0	0

N/A

Note: QC measurements are to be collected by a different technician than the original survey. Mark the QC location number in the "Sample Location" column. Material background is assumed to be zero unless otherwise noted. "LAB" ~ local area background.

99

Final Survey NE Electra
Scan & Investigation Survey Map

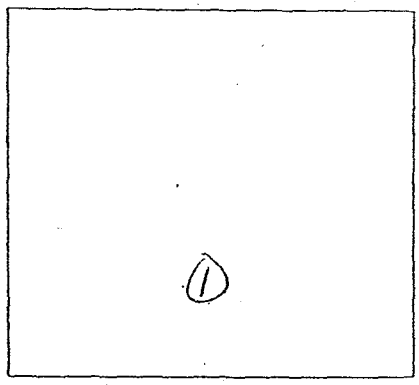
Survey Area:	Survey Unit:	Building:
NA	EXTERIOR	T 331 A
Survey Unit Description: 9 POINT INVESTIGATION AND Q.C. SCAN		
RCT Initials/Date: RC 3-9-00	RCT Initials/Date: N/A	RCT Initials/Date: N/A

Refer to the Final Survey NE Electra Scan & Investigation Survey Form for instrumentation, surveyor & approval information.

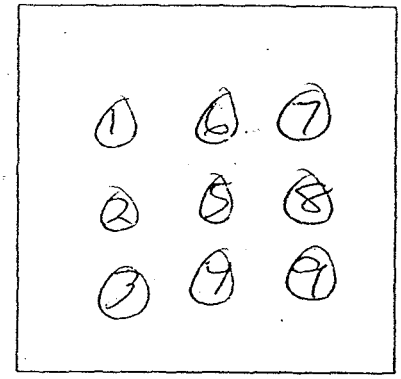
Legend: "R"- Roof, "W" – West Wall, "S" – South Wall, "E" – East Wall, "N" – North Wall "C" –Ceiling, "F" - Floor

Q.C. SCAN

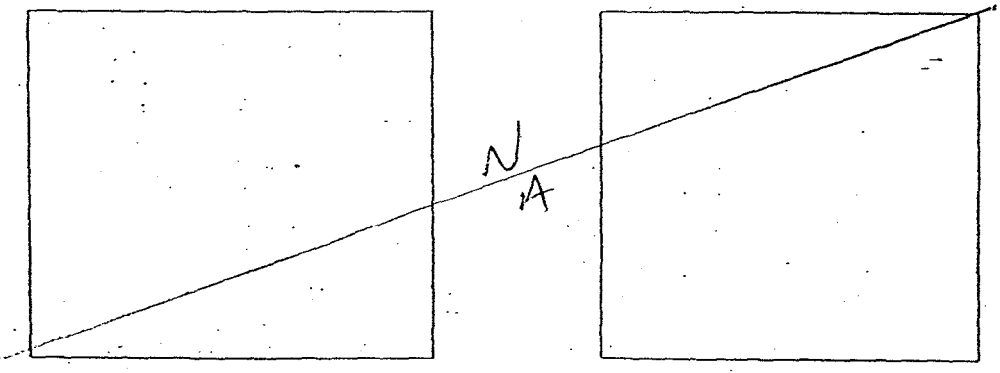
9 POINT INVESTIGATION



* 6-1 W



* A-16 R



*** Designates corner closest to A-1 point of reference**

Results/Comments:

Electra alpha scans were performed at the locations detailed on the survey map(s). All required accessible areas were scanned. All initial scan results were <225 dpm/100cm^2, unless noted on the survey form.

Electra beta scans were performed in required accessible areas. Initial scan results indicated no detectable activity above background unless noted on the survey form.

100

10 of 15

Rev. 020900

Final Survey NE Electra
Scan & Investigation Survey Form
(Continuation Sheet)

Survey Area: N/A	Survey Unit: EXTERIOR	Building: T331A

Survey Unit Description: 9 POINT ROOF INVESTIGATION & Q.C. SCAN

Loc. ID #	*Electra DP-6 Beta*				*Electra DP-6 Alpha*				
	RCT ID #	Inst. ID #	Elevated Audible observed? "Y" or "N"	60-sec PAT (dpm/100cm2)	RCT ID #	Inst. ID #	4-sec Audible observed? "Y" or "N"	30-sec Static (gcpm)	90-sec PAT (dpm/100cm²)
9 POINT INVESTIGATION									
A-16R1					13	13			146
A-16R2					13	13			94
A-16R3					13	13			192
A-16R4			N		13	13		N	140
A-16R5			N/A		13	13		N/A	104
A-16R6					13	13			156
A-16R7					13	13			147
A-16R8					13	13			156
A-16R9					13	13			59
Q.C. SCAN									
G-1Wi	8	13	N	N/A	8	13	Y	8	N/A
						N			
						N/A			

1m²Av 1326 c

Survey Area: N/A	Survey Unit: Exterior	Building: T331A
Survey Unit Description	Asbestos Sampling	

Removable Contamination Data Sheet

Sample Location	RCT ID #	Inst ID #		Gross Counts (gcpm)		Net Counts (cpm)		Removable Activity (dpm/100cm2)	
		α	β	α	β	α	β	α	β
T331A-0309-2000-05-001									
PRE	i	1	2	~~1.05~~ 0.5	45.5	0	6.5	0	26
POST	i	1	2	0	47	-0.5	8	-1.5	32
T331A-0309-2000-05-002									
PRE	i	3	4	1.5	31.5	1.0	-9.6	3	-38.4
POST	i	3	4	0	38	-0.5	-3.1	-1.5	-12.4

N

A

10

Survey Area: N/A	Survey Unit: INTERIOR	Building: T331A
Survey Unit Description: Asbestos Sampling		

Removable Contamination Data Sheet

Sample Location	RCT ID #	Inst ID #		Gross Counts (gcpm)		Net Counts (cpm)		Removable Activity (dpm/100cm2)	
		α	β	α	β	α	β	α	β
T331A-0308-2000-05-001 Ceiling									
Pre 1	1	1	2	0	35	-0.5	-4	-1.5	-16
Post 2	1	3	4	0	42.5	-0.5	1.4	-1.5	5.6
T331A-0308-2000-05-002 Ceiling									
Pre 3	1	1	2	1	44	0.5	5	1.5	20
Post 4	1	3	4	1.5	38	1.0	-3.1	3.0	-12.4
T331A-0308-2000-05-003 RM1 S WALL									
Pre 5	1	1	2	.5	38.5	0	-0.5	0	-2
Post 6	1	3	4	0	33	-0.5	-3.1	-1.5	-12.4
T331A-0308-2000-05-004 RM2 N WALL									
Pre 7	1	1	2	.5	40.5	0	1.5	0	6
Post 8	1	3	4	1.5	33.5	1.0	-2.6	3.0	-10.4
T331A-0308-2000-05-005 RM2 N WALL									
Pre 9	1	1	2	0.5	46	0	7	0	28
Post 10	1	3	4	0.5	38.5	0	-2.6	0	-10.4
T331A-0308-2000-05-006 RM2 Floor									
Pre 11	1	1	2	0	41	-0.5	2.0	-1.5	8
Post 12	1	3	4	.5	39.5	0	-1.6	0	-6.4
T331A-0308-2000-05-007 RM2 Floor									
Pre 13	1	1	2	0	40	-0.5	1.0	-1.5	4
Post 14	1	3	4	.5	35.5	0	-5.6	0	-22.4
T331A-0308-2000-05-008 RM1 Floor									
Pre 15	1	1	2	1.5	36	1.0	-3.0	3.0	-12.
Post 16	1	3	4	0	39	-0.5	-2.1	-1.5	-8.4
T331A-0308-2000-05-009 RM1 Floor									
Pre 17	1	1	2	1.0	38.5	0.5	-0.5	1.5	-2
Post 18	1	3	4	0	40	-0.5	-1.1	-1.5	-4.4
T331A-0308-2000-05-10 RM1 Floor									
Pre 19	1	1	2	1.0	32	0.5	-7	1.5	-28
Post 20	1	3	4	1.0	41	0.5	-0.1	1.5	-0.4

N

103

Survey Area: N/A	Survey Unit: EXTERIOR	Building: T331A
Survey Unit Description: Asbestos Sampling		

Total Surface Activity Data Sheet

Sample location	RCT ID #	Inst ID #		Survey count time (sec)		LAB (cpm)		Gross Count (gcpm)		Net counts (cpm)		Net Activity (dpm/100cm2)	
		α	β	α	β	α	β	α	β	α	β	α	β
T331A-0309-2000-05-001				90	90								
PRE	1	7	7	90	90	18	535	18.7	476	.7	-59	3.4	-198.7
POST	1	7	7	90	90	5	600	6.7	631	1.7	31	8.3	104.4
T331A-0309-2000-05-002				90	90								
PRE	1	7	7	90	90	15	485	18.7	517	3.7	32	18.1	107.7
POST	1	7	7	90	90	3	645	4.0	627	1.0	-18	4.9	-60.6
				90	90								
				90	90								
				90	90								
				90	90								
				90	90								
				90	90								
				90	90								
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				90	90								
				90	90								
				90	90								
___QC				90	90								
___QC				90	90								
___QC				90	90								
___QC				90	90								
___QC				90	90								

N/A

Note: QC measurements are to be collected by a different technician than the original survey. Mark the QC location number in the "Sample Location" column. Material background is assumed to be zero unless otherwise noted. "LAB" ~ local area background.

104

Survey Area: N/A	Survey Unit: INTERIOR	Building: T331A
Survey Unit Description: Asbestos Sampling		

Total Surface Activity Data Sheet

Sample location	RCT ID #	Inst ID #		Survey count time (sec)		LAB (cpm)		Gross Count (gcpm)		Net counts (cpm)		Net Activity (dpm/100cm2)	
		α	β	α	β	α	β	α	β	α	β	α	β
T331A-0308-2000-05-001				90	90								
	i	7	7	90	90	2.0	347	1.3	382	-0.7	35	-3.1	115.3
T331A-0308-2000-05-002				90	90								
	1	7	7	90	90	2.0	435	0.7	382	-1.3	-53	-5.8	-174.6
T331A-0308-2000-05-003				90	90								
	1	7	7	90	90	2.0	318	2.0	381	0	63	0	207.5
T331A-0308-2000-05-004				90	90								
	1	7	7	90	90	2.0	308	2.7	369	+0.7	61	+3.1	200.9
T331A-0308-2000-05-005				90	90								
	i	7	7	90	90	4.0	309	0	375	-4	66	-17.9	217.4
T331A-0308-2000-05-006				90	90								
	1	7	7	90	90	1.3	380	2.7	364	+1.4	-16	+6.3	-52.7
T331A-0308-2000-05-007				90	90								
	1	7	7	90	90	2.0	379	1.3	378	-0.7	-1	-3.1	-3.3
T331A-0308-2000-05-008				90	90								
	1	7	7	90	90	0.7	408	3.3	387	+2.6	-21	+11.6	-69.2
T331A-0308-2000-05-009				90	90								
	1	7	7	90	90	2.0	414	2.7	379	+0.7	-35	+3.1	-115.3
T331A-0308-2000-05-010				90	90								
	1	7	7	90	90	5.3	409	1.3	383	-4	-26	-17.9	-85.6
				90	90								
				90	90								
				90	90								
				90	90								
				90	90								
				90	90								
				90	90								
				90	90	N							
				90	90	A							
___QC				90	90								
___QC				90	90								
___QC				90	90								
___QC				90	90								
___QC				90	90								

Note: QC measurements are to be collected by a different technician than the original survey. Mark the QC location number in the "Sample Location" column. Material background is assumed to be zero unless otherwise noted. "LAB" – local area background.

105

Sample ID: 00A1148-034.001 **Type:** Unknown

Batch ID: unknowns
Acquisition Start: April 26, 2000 14:23:29
Analysis Date: April 27, 2000 06:47:18
Procedure: Po210 count
Device: Oasis:01:04
Analysis Method: ROI Analysis
Spectrum File: 00000507.OXS LiveTime: 28,800.00

Calibrations:
Energy = 8.600E+01 +2.746E+00 * Chn Coeff. of Correlation: -0.998
Calibration Date: April 12, 2000 10:28:56 Std: 1:4 energy cal
Shape not Calibrated.
Efficiency = 3.084E-01 ± 4.055E-03
Calibration Date: April 12, 2000 11:45:10 Std: TS4189

External Recovery No Ext.Recovery

Original Sample Amount:
1.000 ± 0.000 samp
Aliquot Amount: 1.000 ± 0.000 samp

ROI DATA

ROI #	ID	ASSOCIATED NUCLIDE	EXTENTS START	EXTENTS END	PK EN (keV)	FWHM (keV)
1	Po218	Po218	5550.0	6104.5	5826.2	2.7
2	Po214	Po214	6588.5	7874.7	7232.4	1.4
3	Po212	Po212	8393.8	8808.6	8600.1	1.4
4	Po210	Po210	2180.3	5343.3	5246.7	113.3

ROI ANALYSIS RESULTS

ROI ID	NET COUNTS	BKG/INTERF	CPM	ROI TYPE
Po218	0.0 ± 1.8	2.04	-7.86E-05 ± 3.83E-03	Unknown
Po214	-0.7 ± 0.7	0.68	-1.42E-03 ± 1.42E-03	Unknown
Po212	-1.4 ± 1.0	1.36	-2.83E-03 ± 2.00E-03	Unknown
Po210	1,586.5 ± 40.1	11.55	3.305 ± 0.083	Unknown

NUCLIDE ANALYSIS RESULTS

ROI ID	ASSOC NUC	EMM. PROB	ACTIVITY (dpm/samp)	MDA (dpm)
Po218	Po218	1.000	-2.55E-04 ± 0.012	5.94E-02
Po214	Po214	1.000	-4.59E-03 ± 4.59E-03	4.20E-02
Po212	Po212	1.000	-9.18E-03 ± 6.49E-03	5.19E-02
Po210	Po210	1.000	10.718 ± 0.305	1.16E-01

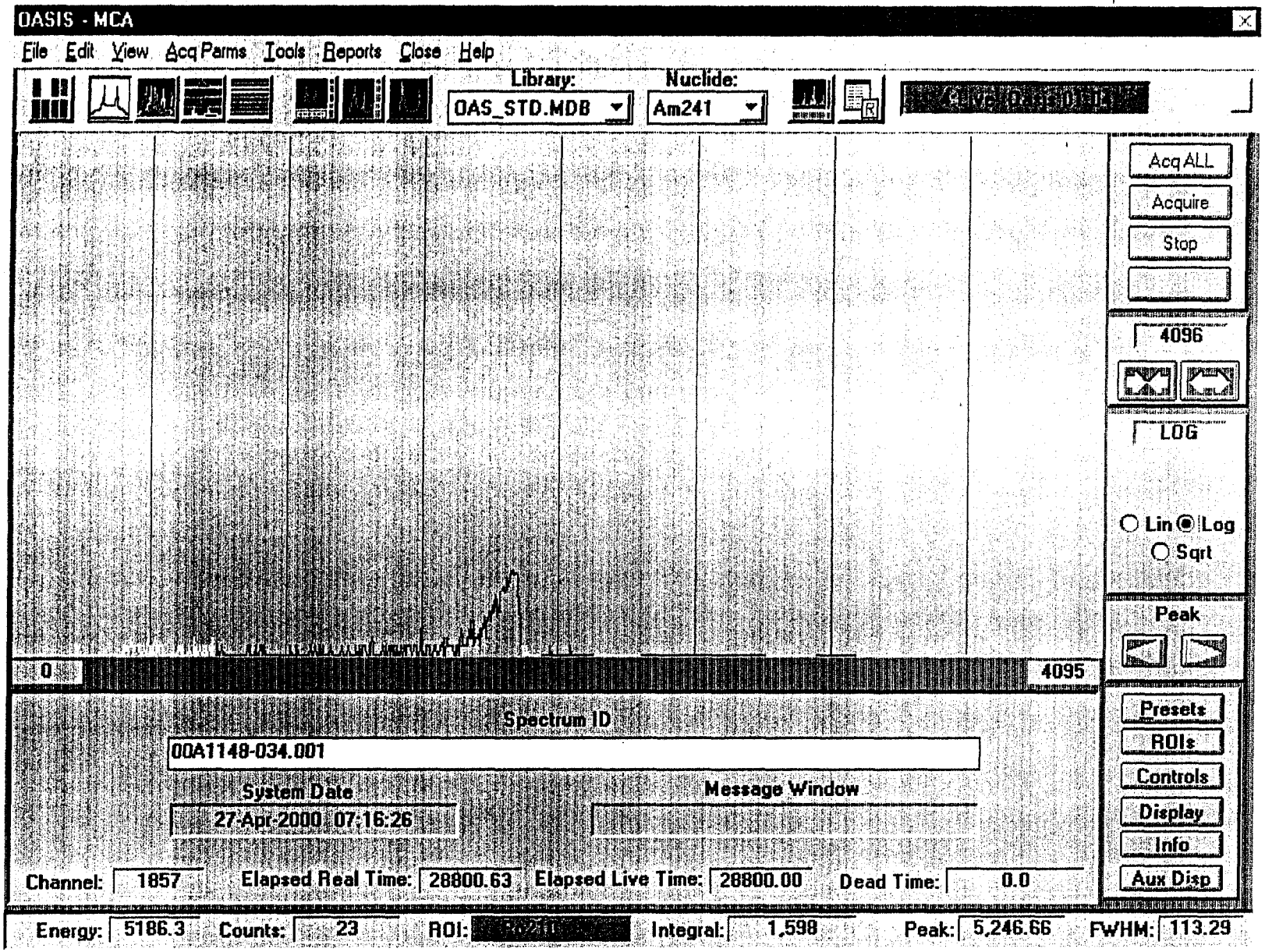
Activity reported as of April 26, 2000 14:23:29

ANALYSIS REVIEWED BY: [signature]

APPROVED BY: C Bianchi 5/9/00

Spike level 22.892 d/m pu239

106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Library:
OAS_STD.MDB
Nuclide:
Am241
Acq ALL
Acquire
Stop
4096
LOG
Lin Log
Sqrt
Peak
0
4095
Spectrum ID
00A1148-034.001
System Date
27-Apr-2000 07:16:26
Message Window
Presets
ROIs
Controls
Display
Info
Aux Disp
Channel: 1857
Elapsed Real Time: 28800.63
Elapsed Live Time: 28800.00
Dead Time: 0.0
Energy: 5186.3
Counts: 23
ROI:
Integral: 1,598
Peak: 5,246.66
FWHM: 113.29

107

mple ID: 00A1148-035.001 Type: Unknown

Batch ID: unknowns
Acquisition Start: April 26, 2000 10:13:08
Analysis Date: April 26, 2000 13:22:47
Procedure: Po210 count
Device: Oasis:01:03
Analysis Method: ROI Analysis
Spectrum File: 00000492.OXS LiveTime: 11,351.00

Calibrations:
Energy = 6.596E+01 +2.779E+00 * Chn Coeff. of Correlation: -0.998
Calibration Date: April 24, 2000 13:03:27 Std: 1:3 Energy Cal
Shape not Calibrated.
Efficiency = 3.120E-01 ± 4.098E-03
Calibration Date: April 24, 2000 10:05:48 Std: TS4189

External Recovery No Ext.Recovery

Original Sample Amount:
1.000 ± 0.000 samp
Aliquot Amount: 1.000 ± 0.000 samp

ROI DATA

ROI #	ID	ASSOCIATED NUCLIDE	EXTENTS START	EXTENTS END	PK EN (keV)	FWHM (keV)
1	Po218	Po218	5550.0	6104.5	5827.5	2.8
2	Po214	Po214	6588.5	7874.7	7231.0	2.8
3	Po212	Po212	8393.8	8808.6	8601.2	0.3
4	Po210	Po210	2180.3	5343.3	5249.4	67.3

ROI ANALYSIS RESULTS

ROI ID	NET COUNTS	BKG/INTERF	CPM	ROI TYPE
Po218	2.7 ± 1.8	0.27	0.014 ± 9.27E-03	Unknown
Po214	2.7 ± 1.8	0.27	0.014 ± 9.27E-03	Unknown
Po212	-0.5 ± 0.4	0.54	-2.85E-03 ± 2.01E-03	Unknown
Po210	562.5 ± 23.9	7.54	2.973 ± 0.126	Unknown

NUCLIDE ANALYSIS RESULTS

ROI ID	ASSOC NUC	EMM. PROB	ACTIVITY (dpm/samp)	MDA (dpm)
Po218	Po218	1.000	0.046 ± 0.030	7.84E-02
Po214	Po214	1.000	0.046 ± 0.030	7.84E-02
Po212	Po212	1.000	-9.13E-03 ± 6.45E-03	9.19E-02
Po210	Po210	1.000	9.529 ± 0.424	2.18E-01

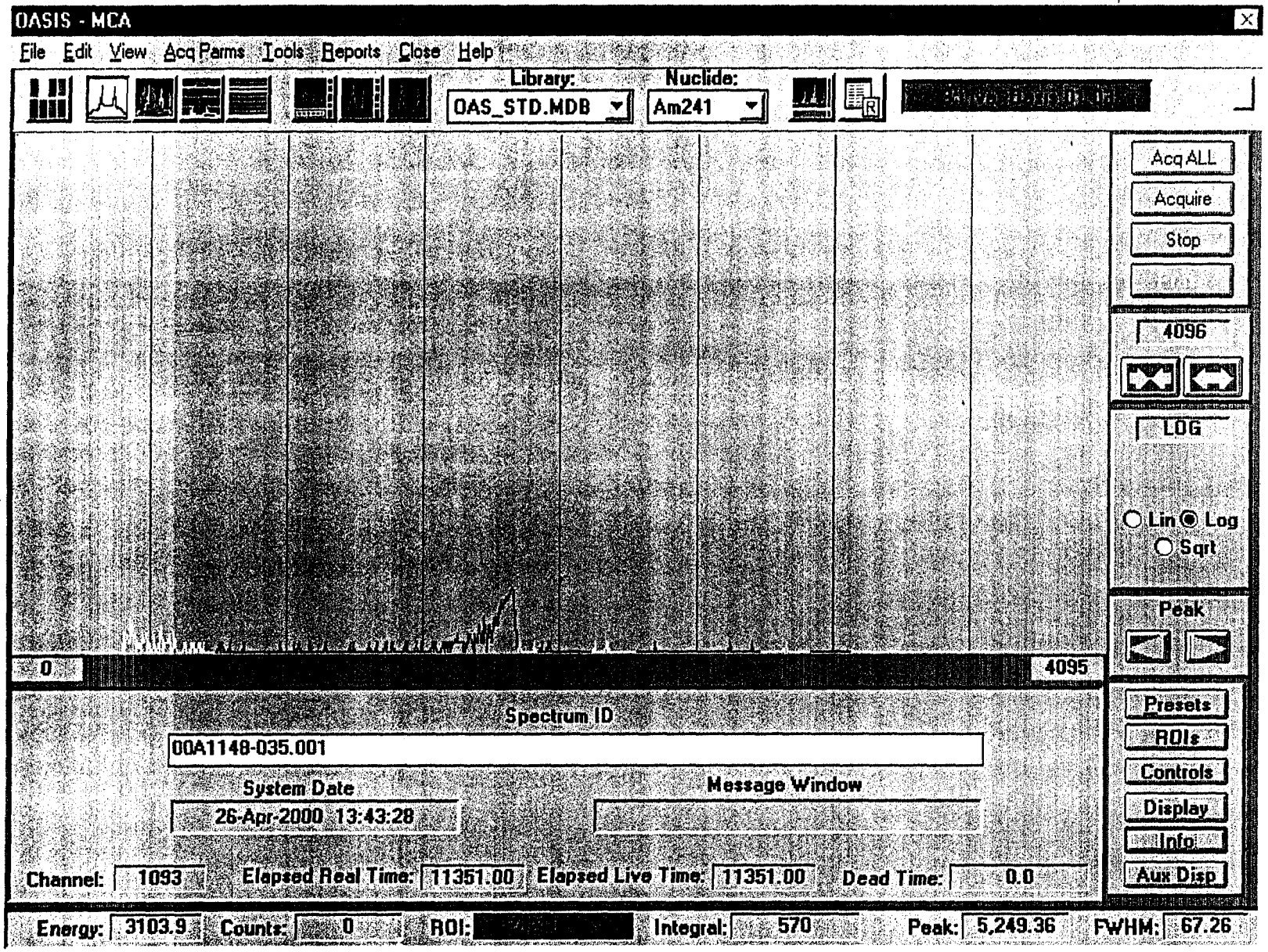
Activity reported as of April 26, 2000 10:13:08

ANALYSIS REVIEWED BY: [signature]

APPROVED BY: CJ Bianconi 5/9/00

Spike level: 22.950 dpm pu239

108


OASIS - MCA
File Edit View Acq Parms Tools Reports Close Help
Library:
OAS_STD.MDB
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Am241
Acq ALL
Acquire
Stop
4096
LOG
Lin Log
Sqrt
Peak
0
4095
Presets
ROIs
Controls
Display
Info
Aux Disp
Spectrum ID
00A1148-035.001
System Date
26-Apr-2000 13:43:28
Message Window
Channel: 1093
Elapsed Real Time: 11351.00
Elapsed Live Time: 11351.00
Dead Time: 0.0
Energy: 3103.9
Counts: 0
ROI:
Integral: 570
Peak: 5,249.36
FWHM: 67.26

Sample ID: 00A1148-036.001 **Type:** Unknown

Batch ID: unknowns
Acquisition Start: April 26, 2000 10:13:06
Analysis Date: April 26, 2000 13:13:28
Procedure: Po210 count
Device: Oasis:01:02
Analysis Method: ROI Analysis
Spectrum File: 00000501.OXS LiveTime: 10,800.00

Calibrations:
Energy = 5.823E+01 +2.790E+00 * Chn Coeff. of Correlation: -0.998
Calibration Date: April 07, 2000 14:55:56 Std: 1:2 energy cal
Shape not Calibrated.
Efficiency = 3.089E-01 ± 4.062E-03
Calibration Date: April 07, 2000 15:15:30 Std: TS4189

External Recovery No Ext.Recovery

Original Sample Amount:
1.000 ± 0.000 samp
Aliquot Amount: 1.000 ± 0.000 samp

ROI DATA

ROI ID #	ASSOCIATED NUCLIDE	EXTENTS START	EXTENTS END	PK EN (keV)	FWHM (keV)
1 Po218	Po218	5550.0	6104.5	5826.0	2.8
2 Po214	Po214	6588.5	7874.7	7229.6	2.8
3 Po212	Po212	8393.8	8808.6	8599.7	2.8
4 Po210	Po210	2180.3	5343.3	5276.3	15.6

ROI ANALYSIS RESULTS

ROI ID	NET COUNTS	BKG/INTERF	CPM	ROI TYPE
Po218	3.0 ± 1.7	0.00	0.017 ± 9.62E-03	Unknown
Po214	0.7 ± 1.0	0.26	4.13E-03 ± 5.74E-03	Unknown
Po212	1.0 ± 1.0	0.00	5.56E-03 ± 5.56E-03	Unknown
Po210	417.4 ± 20.6	4.62	2.319 ± 0.114	Unknown

NUCLIDE ANALYSIS RESULTS

ROI ID	ASSOC NUC	EMM. PROB	ACTIVITY (dpm/samp)	MDA (dpm)
Po218	Po218	1.000	0.054 ± 0.031	4.87E-02
Po214	Po214	1.000	0.013 ± 0.019	8.23E-02
Po212	Po212	1.000	0.018 ± 0.018	4.87E-02
Po210	Po210	1.000	7.506 ± 0.383	1.91E-01

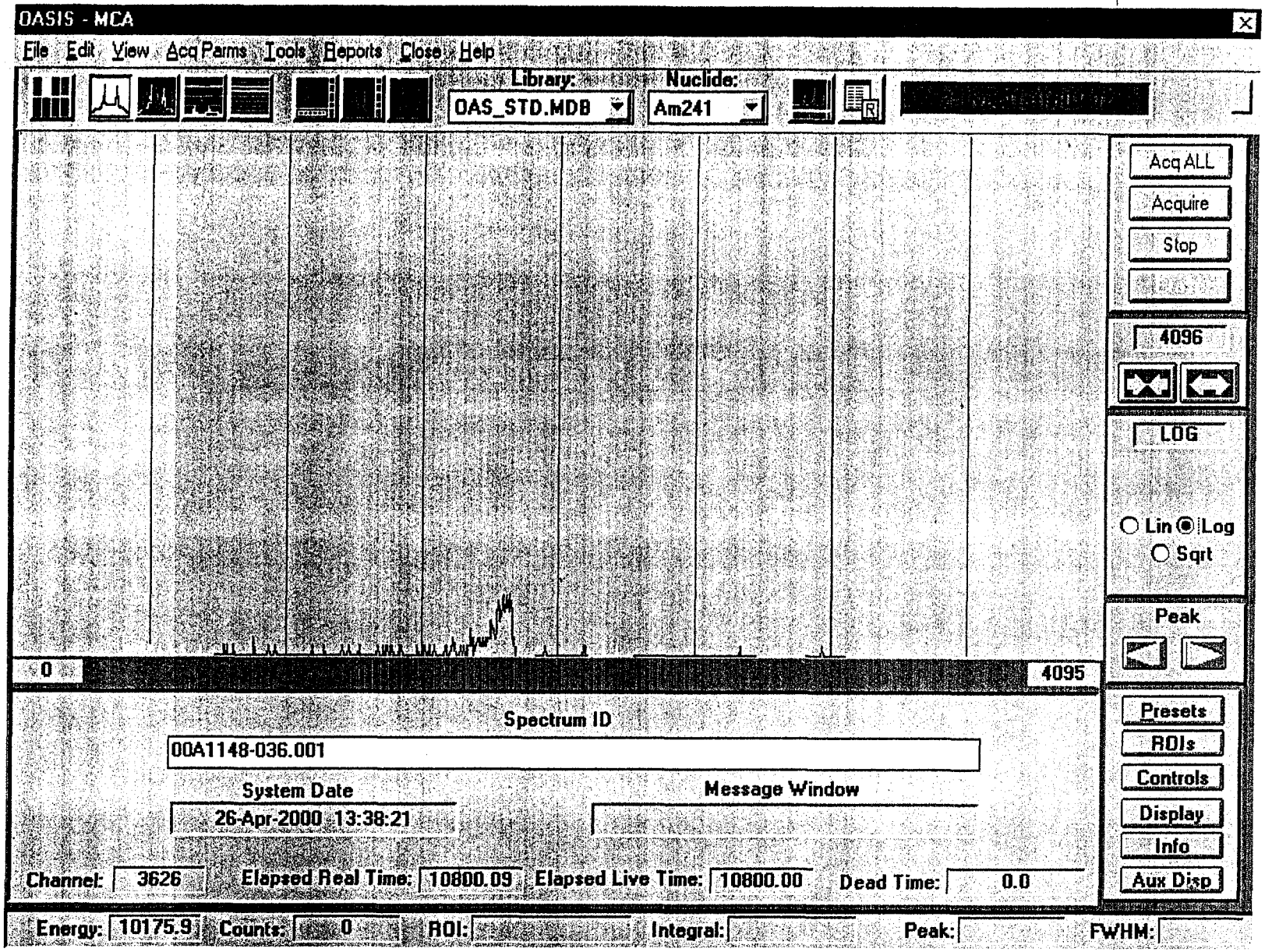
Activity reported as of April 26, 2000 10:13:06

ANALYSIS REVIEWED BY: [signature]

APPROVED BY: C J Bianco 5/9/00

22.982 d/m
P 859

110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Nuclide:
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Am241
Acq ALL
Acquire
Stop
4096
LOG
Lin Log
Sqrt
Peak
0
4095
Spectrum ID
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System Date
26-Apr-2000 13:38:21
Message Window
Presets
ROIs
Controls
Display
Info
Aux Disp
Channel: 3626
Elapsed Real Time: 10800.09
Elapsed Live Time: 10800.00
Dead Time: 0.0
Energy: 10175.9
Counts: 0
ROI:
Integral:
Peak:
FWHM:

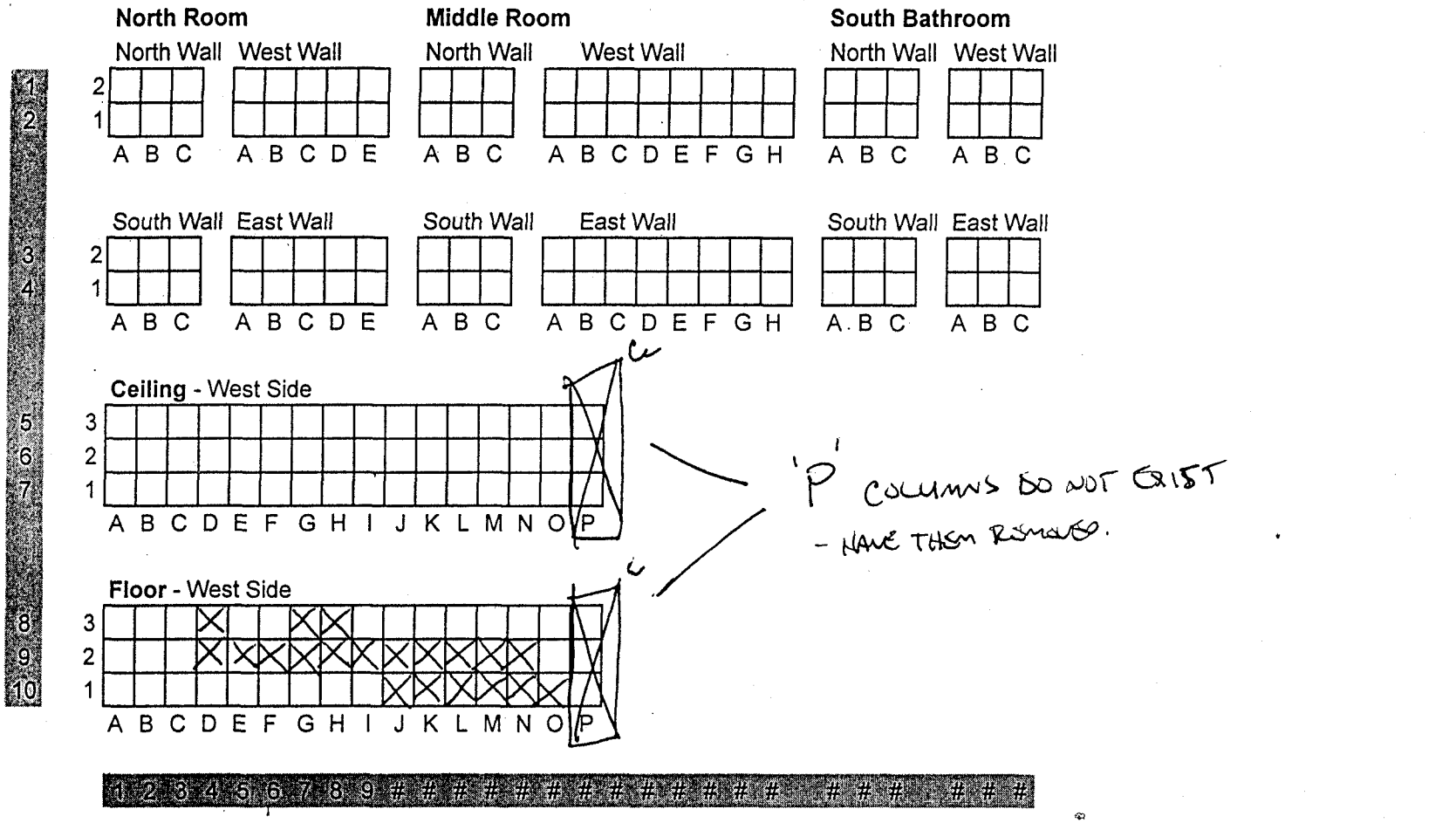
C-2

T331A – Radiological Survey Data for Interior Survey Unit

- Map of Locations
  - Scans
  - Surveys
- Removable and Total Survey Results - Detail

SCAN LOCATIONS:

T331A Interior



'P' COLUMNS DO NOT EXIST - HAVE THEM REMOVED.

3 of 11

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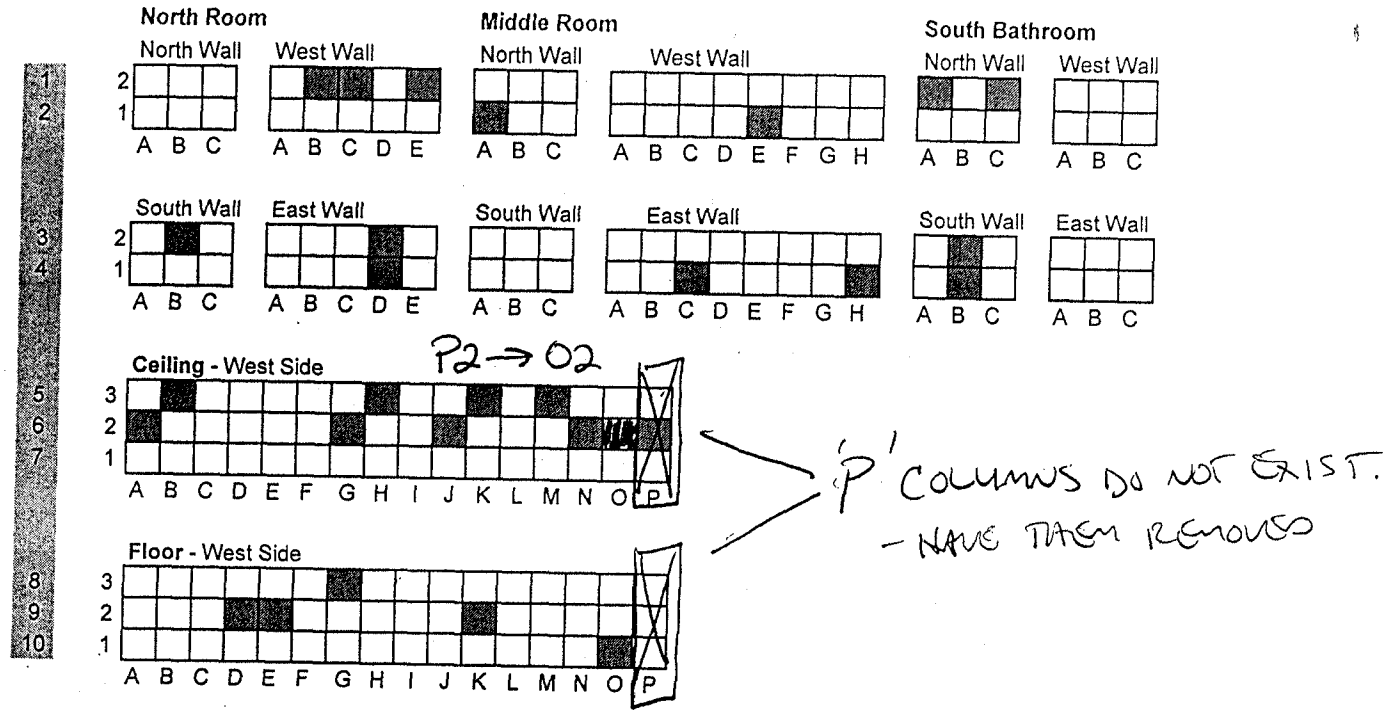
T331A Interior



X-Coordinate	Y-Coordinate
28	4

= one square meter

= direct & swipe

	X	Y		X	Y		X	Y
1	24	4	11	19	2	21	23	1
2	7	1	12	4	9	22	13	5
3	8	3	13	11	9	23	15	10
4	22	4	14	8	4	24	24	3
5	2	3	15	10	6	25	16	6
6	2	5	16	5	9	26	7	8
7	25	1	17	1	6	27	6	1
8	17	4	18	7	6	28	9	1
9	8	5	19	14	6			
10	11	2	20	11	5			

Total Surface Area = 196 m²

10% Scan Surface Area = 19.6 m²

Survey Area: NA	Survey Unit: INT.	Building: T331A
Survey Unit Description: Walls, Floor, Ceiling		

Total Surface Activity Data Sheet

Sample location	RCT ID #	Inst ID #		Survey count time (sec)		LAB (cpm)		Gross Count (gcpm)		Net counts (cpm)		Net Activity (dpm/100cm2)	
		α	β	α	β	α	β	α	β	α	β	α	β
A-2C	3	8	8	90	90	3.3	468	2.0	447	-1.3	-21	-6.4	-71
B-3C	3	8	8	90	90	0.0	431	1.3	465	1.3	34	6.4	114
G-2C	3	8	8	90	90	1.3	449	1.3	465	0	16	0	54
H-3C	3	8	8	90	90	4.7	430	1.3	467	-3.4	37	-16.6	125
J-2C	3	8	8	90	90	2.7	464	4.0	478	1.3	14	6.4	47
K-3C	3	8	8	90	90	0.0	477	0.7	473	0.7	-4	3.4	-13
M-3C	3	8	8	90	90	1.3	473	1.3	492	0	+19	0	64
N-2C	3	8	8	90	90	1.3	478	1.3	501	0	~~+23~~	0	~~44~~ 7
O-2C	3	8	8	90	90	0.0	474	1.3	477	1.3	3	6.4	10
D-2F	1	7	7	90	90	2.0	436	4.7	391	2.7	-45	12.9	-157
E-2F	1	7	7	90	90	2.7	427	4.7	432	2.0	5	9.6	17
G-3F	1	7	7	90	90	2.0	397	4.7	412	2.7	15	12.9	52
-2F	1	7	7	90	90	2.0	412	4.7	405	2.7	-7	12.9	-24
-1F	1	7	7	90	90	2.7	430	3.3	434	0.6	4	2.9	14
B-2W	1	7	7	90	90	3.3	~~350~~ 380	2.0	262	-1.3	-118	~~-6.4~~ -6.2	~~-111~~
C-2W	1	7	7	90	90	3.3	~~350~~ 330	20.0	360	16.7	+20	79.9	~~-70.3~~ 76
E-2W	1	7	7	90	90	1.3	410	4.0	379	2.7	-31	12.9	-108
B-2S	1	7	7	90	90	4.0	397	2.0	355	-2.0	-22	-9.6	-77
D-1E	1	7	7	90	90	2.7	353	5.3	359	2.6	6	12.4	21
D-2E	1	7	7	90	90	2.7	~~410~~	6.0	308	3.3	-102	15.8	-356
A-1N	1	7	7	90	90	3.3	360	4.0	293	0.7	-67	3.4	-234
E-1W	1	7	7	90	90	3.3	341	4.7	355	1.4	14	6.7	49
C-1E	1	7	7	90	90	2.0	312	3.3	311	1.3	-1	6.2	~~-3.5~~ -3
H-1E	1	7	7	90	90	2.7	346	3.3	330	0.6	-16	2.9	-56
A-2N	3	8	8	90	90	0.0	350	4.0	296	4.0	-54	~~11.4~~ 12.6	-182
C-2N	3	8	8	90	90	2.0	409	3.3	273	1.3	-136	6.4 ~~6.2~~	-458
B-1S	1	7	7	90	90	5.3	423	4.7	285	-0.6	-138	-2.9	-481
B-2S	1	7	7	90	90	1.3	368	4.0	294	2.7	-74	12.9	-258
O-1FQC	8	7	7	90	90	5.3	358	9.3	369	4.0	11	19.1	38
G-3FQC	8	7	7	90	90	6.0	351	5.3	393	-0.7	42	-3.4	146
D-2FQC	8	7	7	90	90	7.3	354	9.3	339	2.0	-15	9.6	-52
E-2FQC	8	7	7	90	90	5.3	373	4.0	371	-1.3	-2	-6.2	~~-7.0~~ 7.0
FQC	8	7	7	90	90	2.7	391	4.0	365	1.3	-26	6.2	~~-22.4~~ 91

Note: QC measurements are to be collected by a different technician than the original survey. Mark the QC location number in the "Sample Location" column. Material background is assumed to be zero unless otherwise noted. "LAB" area background. ~~90.9~~ local

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Survey Area: NA	Survey Unit: INTERIOR	Building: T331A
Survey Unit Description: Walls, Floor Ceiling		

Removable Contamination Data Sheet

Sample Location	RCT ID #	Inst ID #		Gross Counts (gcpm)		Net Counts (cpm)		Removable Activity (dpm/100cm2)	
		α	β	α	β	α	β	α	β
MAIN AREA									
A-2C	3	1	3	1.5	43	1.0	2.1	3.0	8.4
B-3C	3	2	4	0.0	35.5	-0.5	-3.2	-1.5	-12.8
G-2C	3	1	3	0.5	44.5	0.0	3.6	0.0	14.4
H-3C	3	2	4	0.5	33	0.0	-5.7	0.0	-22.8
J-2C	3	1	3	0.5	36.5	0.0	-4.4	0.0	-17.6
K-3C	3	2	4	0.5	42.5	~~-0.5~~ 0.0	3.8	~~-1.5~~ 0.0	15.2
M-3C	3	1	3	0.0	39	-0.5	-1.9	-1.5	-7.6
N-2C	3	2	4	0.5	34.5	0.0	-4.2	0.0	-16.8
O-2C	3	1	3	0.5	38.5	0.0	-2.4	0.0	-9.6
E-2F	3	2	4	0.5	38.5	0.0	~~-2.4~~ -0.2	0.0	~~-9.6~~ -0.8
G-3F	3	1	3	0.5	44.5	0.0	~~5.8~~ 3.6	0.0	~~23.2~~ 14.4
K-2F	3	1	3	0.0	49.5	-0.5	8.6	-1.5	34.4
[illegible]F	3	2	4	1.0	36.0	+0.5	-2.7	1.5	-10.8
[illegible]F	3	2	4	0.5	30.5	0.0	-8.2	0.0	-32.8
NORTH ROOM									
B-2W	3	1	3	0.0	39.0	-0.5	-1.9	-1.5	-7.6
C-2W	3	2	4	0.0	38.0	-0.5	-0.7	-1.5	-2.8
E-1W	3	2	4	0.0	40.0	-0.5	1.3	-1.5	5.2
B-2S	3	1	3	0.5	41.5	0.0	0.6	0.0	2.4
D-1E	3	1	3	0.0	43.0	-0.5	2.1	-1.5	8.4
D-2E	3	2	4	2.0	38.5	1.5	-0.2	4.5	-0.8
MIDDLE ROOM									
A-1N	3	1	3	0.5	38.5	0.0	-2.4	0.0	-9.6
E-1N	3	2	4	2.0	46.0	1.5	7.3	4.5	29.2
C-1E	3	1	3	0.5	44.0	0.0	3.1	0.0	12.4
H-1E	3	2	4	0.5	38.5	0.0	-0.2	0.0	-0.8
SOUTH BATHROOM									
A-2N	3	1	3	0.5	44.0	0.0	3.1	0.0	12.4
C-2N	3	2	4	0.5	39.5	0.0	0.8	0.0	3.2
B-1S	3	1	3	0.5	52.5	0.0	11.6	0.0	46.4
B-2S	3	1	3	0.5	41.5	0.0	0.6	0.0	2.4
						N			
						A			

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C-3

T331A – Asbestos Inspector's Report

T331A

ASBESTOS INSPECTOR'S REPORT

I, the undersigned Certified Asbestos Inspector, certification # 1387 in the state of Colorado, attest to the asbestos inspection and sampling results as described below, for the following facility (at RFETS): Trailer 331A.

General Facility Location: east of and adjacent to Building 331.

INSPECTION RESULTS

Several materials within the trailer posed the potential for containing asbestos, as evidenced by the large number of samples from ceiling panels, drywall, linoleum, and base material beneath the carpet. One occurrence of asbestos was detected in sample –010, representing the entire floor of the trailer; however, the asbestos was not in a friable form. Fiberglass insulation was identified inside the walls.

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SAMPLE RESULTS

Sample Number	Material Sampled & Location	Analytical Results
T331A-0308200005-001	Tan/white ceiling tile	None Detected
T331A-0308200005-002	Tan/white ceiling tile	None Detected
T331A-0308200005-003	White/gray wall covering; white/tan drywall	None Detected
T331A-0308200005-004	White/gray wall covering; white/tan drywall	None Detected
T331A-0308200005-005	White/gray wall covering; white/tan drywall	None Detected
T331A-0308200005-006	Gray/white mastic; white plaster; white linoleum	None Detected
T331A-0308200005-007	White linoleum	None Detected
T331A-0308200005-008	White mastic/plaster/linoleum	None Detected
T331A-0308200005-009	Tan mastic; white mastic/plaster/linoleum	None Detected
T331A-0308200005-010	Tan mastic; brown tile	12% Chrysotile; nonfriable
T331A-0309200005-001	Black Tar	None Detected
T331A-0309200005-002	Black Tar	None Detected

Andre Gonzalez — INSPECTOR'S NAME

SIGNATURE

7/12/00 — DATE

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C-4

D&D Facility Characterization Interview Checklist

Type 1 Facility Checklist

D&D Facility Characterization Interview Checklist

ID No.: T-131A 32
Date: 02/01/00 6/5/00

Groups B & C Series

Check List for - Title: D&D Facility Characterization – Interviews

CRITERIA:
- Λ *D&D Characterization Protocol*, RFETS MAN-077-DDCP, Rev. 0
- Λ *Facility Disposition Program Manual*, RFETS MAN-076-FDPM
- Λ RFETS Radiological Safety Practices, January 12, 1998

Facility Name & Type (1, 2, or 3) T-131A Women firefighter sleeping quarters Type 1
Personnel Interviewed (Name & Title/Function) T. Parker / Fire Chief Ext.6043 Room 127

	-- Y/N --
Does a current WSRIC exist for the facility?	N
If so, are there exceptions to the WSRIC as written?	No WSRIC, No Exceptions

COMMENTS (incl. WSRIC contacts)
WSRIC Contact is James M. Schoen who is in charge of the WSRIC Reports, T130J, X3579, C-83.

Are rad surveys available that indicate current status of the facility?	N
Are historical rad surveys available that indicate historical status, or evolution, of the facility?	N*

COMMENT N* According to Chief Parker, Ext. 6043of KH any historical data, which is probably at the Federal Center, would not be adequate for unrestricted release. New monitor surveys would have to be taken.

Is an HRR available for the facility?	N
Do any other reports exist beyond the HRR (e.g., spill reports, reportable incidents, etc.) that further Characterize the facility relative to chemical &/or radiological contamination?	N**
Are engineering drawings (esp. "as-builts") available?	N*
Are any nonconformances or issues with the facility status currently being tracked in PATS?	N

If so, what are the issues (note in Comments, below)?

COMMENTS N* Radiological surveys may have been done, but the old data is not available. This unit will have to be resurveyed to meet present standards for unrestricted release. The Plant stopped using lead based paints for office buildings in 1989. If T-131A was painted prior to this date, lead based paints may have been used. N** According to Nick Demos, ER Characterization/HRR Manager, X4605, the T-131A trailer area has no historical information regarding spills to the environment. No engineering drawings or as-builts exist for the office trailer.

Have any types of chemical characterization, incl. asbestos, been performed recently?	Y*

If so, what types of characterization were performed (note in Comments, below)?

COMMENTS Y* Asbestos characterization data exists, according to Kevin Sheehan, X7250, T-452D, Room C-1. The asbestos data reports are located in Cubicle C-13, of T-452D and the reports are under the control of Kevin Sheehan.

Interviewed by: D.A.Burton / J.R. Sheets for D.A. Burton / 02/01/00

Print Name / Signature / Interview Date

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D&D Facility Characterization Interview Checklist

ID No.: T -331A
Date: 02/01/00

What timeframe did the interviewee work in the facility? N/A The facility was sleeping quarters for women

From 1979 to 2000

Has the building configuration changed since you worked in the building? If so, in what way?

Y The facility was converted from an office trailer to sleeping quarters and a restroom shower room was added.

What types of equipment were in the building during the interviewee's time there?
Fire extinguishers, through the wall mounted air conditioners, wall mounted heaters.

Where was the equipment located? (specific rooms/areas) In and on the walls in the north and center rooms.

Were any radioactive materials or metals handled in the building? If so, what types? No, none

Which equipment handled radioactive material? N/A

Were any chemicals handled in the building? If so, what types? N/A

Did any spills or uncontrolled releases of radioactive materials or chemicals occur while you were working in the facility? No, none.

Were these spills/releases cleaned-up? How were they cleaned-up? N/A

Where did these spills/releases occur? N/A

Interviewed by: D,A,Burton / DR Sheets for D.A. Burton / 02/01/00

Print Name / Signature / Interview Date

Type 1 Facility Checklist

TYPE 1 FACILITY BUILDING T-331A

CURRENT LANDLORD: RFCSS

DATE OF COMPLETION: 02/29/00

ITEM	YES	NO
Does the facility contain radiological postings?		X
Does the facility contain chemical postings?		X
Are there any installed hazards?		X
Is there any information that indicates this facility was Impacted by DOE chemical and/or radiological operations?		X
Are there RCRA units within the facility		X
Is there a history of the building available?	X	
Is there any equipment/furniture left in the facility?		X
Is there a future mission identified for the facility?		X
Will the facility be left unsecured after it is vacated?		X

If any answer to any of the above questions is "Yes", complete the following questions and complete the "graded" PEP in accordance with Chapter 2.

Note: An answer of "Yes" to any question, specifically one dealing with hazards, ***may*** *indicate the facility is not a Type 1 Facility. Check with the D&D Programs office.*

If the answer to all question is "No" complete the "graded" PEP in accordance with Chapter 2.

1. List the Radiological Hazards, location, and quantity:

   Based on the historical data found and interviews taken there are no hazards in this trailer.

2. List the Chemical Hazards, location, and quantity:

   None. Based on historical data and interviews taken there are no chemical hazards in this trailer.

3. List the Physical Hazards:

   NONE

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D-1

T771D – Radiological Survey Data for Exterior Survey Unit

- Summary of Radiological Survey/Sample Results
- Map of Locations
  - Scans
  - Surveys
- Removable and Total Survey Results – Detail
- Laboratory Alpha Spec (Sample) Results – Detail

Radiological Survey/Sample Results for T771D

Total Surface Activity Measurements dpm/100 cm^2

	Alpha	Beta
Interior	# Required	# Obtained
	28	28
MIN	-25.9	-280
MAX	15.8	202
MEAN	-3.2	-16.0
STD DEV	10.1	135.2
Exterior	# Required	# Obtained
	28	28
MIN	-6.5	-561
MAX	273.7	488
MEAN	82.5	32.5
STD DEV	89.3	287.1
$DCGL_W$	100	5000

Removable Activity Measurements dpm/100 cm^2

	Alpha	Beta
Interior	# Required	# Obtained
	28	28
MIN	-1.8	-41.6
MAX	3.0	46.8
MEAN	-0.4	5.3
STD DEV	1.3	19.2
Exterior	# Required	# Obtained
	28	30
MIN	-1.5	-52
MAX	6.1	96
MEAN	1.7	-3.4
STD DEV	2.3	26.5
$DCGL_W$	20	1000

Media Sample Activity

# Required	# Obtained
2	2

Contaminant	Y/N	Det. Sens. dpm/100 cm^2
U present	N	79
Pu present	N	79

Total Po-210 Results dpm/100 cm^2

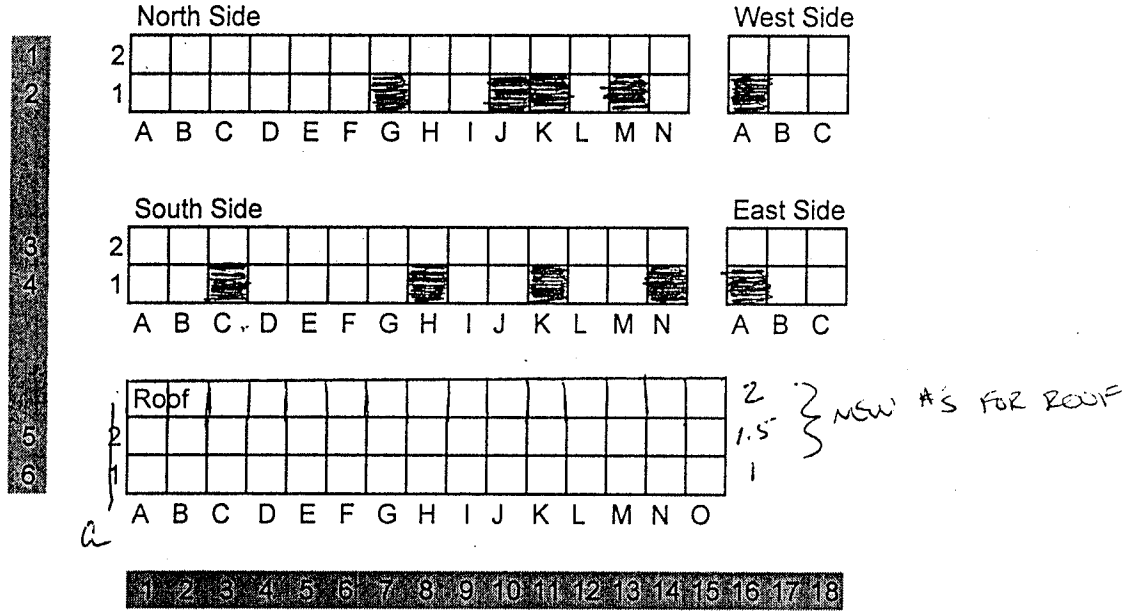
MIN	184.8
MAX	243.6
MEAN	214.2
STD DEV	9.6

125

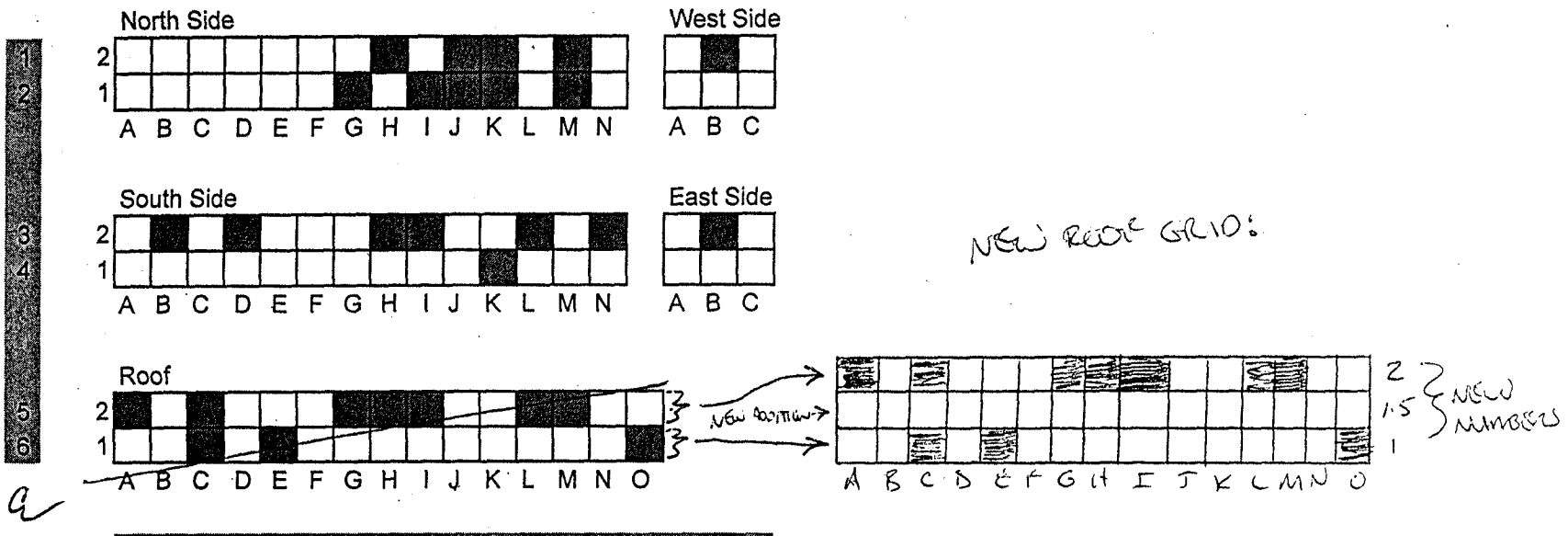
3-20-00

SCAN LOCATIONS:

T771D Exterior



T771D Exterior



X Coordinate	Y Coordinate
8	2

= one square meter

= direct & swipe

Total Surface Area = 98 m^2

10% Scan Surface Area = 9.8 m^2

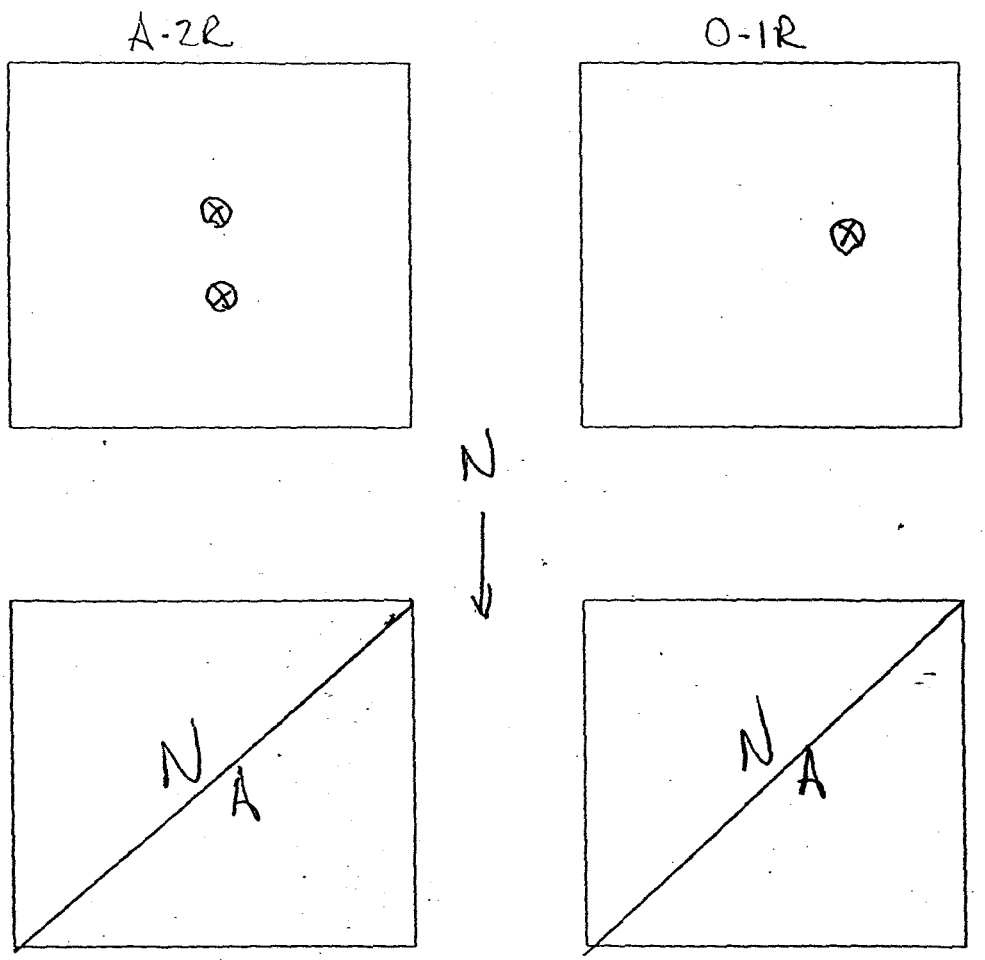
	X	Y		X	Y		X	Y
1	9	5	11	9	2	21	11	1
2	3	5	12	14	3	22	1	5
3	11	2	13	4	3	23	8	1
4	9	3	14	15	6	24	7	5
5	3	6	15	13	1	25	17	3
6	12	5	16	8	3	26	13	2
7	10	1	17	12	3	27	7	2
8	10	2	18	11	4	28	13	5
9	2	3	19	8	5			
10	17	1	20	5	6			

Final Survey NE Electra
Scan & Investigation Survey Map

Survey Area: NA	Survey Unit: Exterior	Building: T771B
Survey Unit Description: Roof Sample Location		
RCT Initials/Date: [illegible] 3/28/00	RCT Initials/Date: NA	RCT Initials/Date: NA

Refer to the Final Survey NE Electra Scan & Investigation Survey Form for instrumentation, surveyor & approval information.

Legend: "R"- Roof, "W" – West Wall, "S" – South Wall, "E" – East Wall, "N" – North Wall "C" –Ceiling, "F" - Floor



⊗ DENOTES SAMPLE CUTOUT

*** Designates corner closest to A-1 point of reference**

Results/Comments:
Electra alpha scans were performed at the locations detailed on the survey map(s). All required accessible areas were scanned. All initial scan results were <225 dpm/100cm², unless noted on the survey form.
Electra beta scans were performed in required accessible areas. Initial scan results indicated no detectable activity above background unless noted on the survey form.

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Survey Area: NA	**Survey Unit:** EXTERIOR	**Building:** T771D
Survey Unit Description ROOF SAMPLE LOCATIONS		

Removable Contamination Data Sheet

Sample location	RCT ID #	Inst ID #		Gross Counts (gcpm)		Net Counts (cpm)		Removeable Activity (dpm/100cm2)	
		α	β	α	β	α	β	α	β
PRE						0	0	0.0	0
A-2R	1	1	2	0.5	42.5	0	4.4	0.0	18
POST						0	0	0.0	0
A-2R	1	3	4	0	37.5	-0.6	-1.3	-1.8	-5
PRE						0	0	0.0	0
A-2RQC	1	1	2	0.5	52	0	13.9	0.0	56
POST						0	0	0.0	0
A-2RQC	1	3	4	0.5	38.5	-0.1	-0.3	-0.3	-1
PRE						0	0	0.0	0
O-1R	1	1	2	1.5	38.5	1	0.4	3.0	2
POST						0	0	0.0	0
O-1R	1	3	4	0	40.5	-0.6	1.7	-1.8	7
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
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						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0

N/A

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Survey Area: NA **Survey Unit:** EXTERIOR **Building:** T771D

Survey Unit Description

ROOF SAMPLE LOCATIONS

Total Surface Activity Data Sheet

Sample location	RCT ID #	Inst ID #		Survey count time (sec)		Gross Count (gcpm)		LAB (cpm)		Net counts (cpm)		Net Activity (dpm/100cm2)	
		α	β	α	β	α	β	α	β	α	β	α	β
PRE				90	90					0.0	0	0.0	0
A-2R	1	7	7	90	90	51.3	520	4.0	433	47.3	87	226.9	291
POST				90	90					0.0	0	0.0	0
A-2R	1	7	7	90	90	52.0	492	4.0	421	48.0	71	230.2	238
PRE				90	90					0.0	0	0.0	0
A-2RQC	2	8	8	90	90	46.0	529	2.7	431	43.3	98	211.6	330
POST				90	90					0.0	0	0.0	0
A-2RQC	2	8	8	90	90	40.7	423	0.7	450	40.0	-27	195.5	-91
PRE				90	90					0.0	0	0.0	0
O-1R	1	7	7	90	90	54.7	529	1.3	413	53.4	116	256.1	388
POST				90	90					0.0	0	0.0	0
O-1R	1	7	7	90	90	48.7	501	2.0	385	46.7	116	224.0	388
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
QC				90	90					0.0	0	0.0	0
QC				90	90					0.0	0	0.0	0
QC				90	90					0.0	0	0.0	0
QC				90	90					0.0	0	0.0	0
QC				90	90					0.0	0	0.0	0

N/A

Note: QC measurements are to be collected by a different technician than the original survey. Mark the QC location number in the "Sample Location" column. Material background is assumed to be zero unless otherwise noted. "LAB" ~ local area background. Page 4 of 5

Survey Area: NA	Survey Unit: EXTERIOR	Building: T77HD
Survey Unit Description	WALLS, Roof	

Removable Contamination Data Sheet

Sample Location	RCT ID #	Inst ID #		Gross Counts (gcpm)		Net Counts (cpm)		Removable Activity (dpm/100cm2)	
		α	β	α	β	α	β	α	β
G-1N	6	1	2	1.0	27	0.5	-13	1.5	-52
H-2N	6	1	2	2.0	40.5	1.5	0.5	4.5	2.0
I-1N	6	1	2	1.5	35	1.0	-5.0	3.0	-20
J-1N	6	1	2	0.5	38.5	0.0	-1.5	0.0	-6.0
J-2N	6	1	2	2.5	44.5	2.0	4.5	6.1	18
K-1N	6	1	2	2.0	38.5	1.5	-1.5	4.5	-6.0
K-2N	6	1	2	2.0	40.5	1.5	0.5	4.5	2.0
M-1N	6	1	2	2.0	35.5	1.5	-4.5	4.5	-18
M-2N	6	1	2	0.0	30.5	-0.5	-9.5	-1.5	-38
B-2W	6	1	2	1.5	44.0	1.0	4.0	3.0	16
B-2S	6	1	2	0.5	64.0	0.0	24	0.0	96
D-2S	6	1	2	2.0	36.0	1.5	-4.0	4.5	-16
[illegible]-2S	6	1	2	0.5	38.0	0.0	-2.0	0.0	-8
[illegible]-2S	6	1	2	0.0	36.5	-0.5	-3.5	-1.5	-14
[illegible]-1S	6	1	2	1.0	46.5	0.5	6.5	1.5	26
L-2S	6	1	2	2.0	35.0	1.5	-5.0	4.5	-20
N-2S	6	1	2	0.5	41.0	0.0	1.0	0.0	4.0
B-2E	6	1	2	1.0	39.5	0.5	-0.5	1.5	-2.0
A-2R	6	1	2	0.5	44.5	0.0	4.5	0.0	18
C-1R	6	1	2	0.5	47.0	0.0	7.0	0.0	28
C-2R	6	1	2	0.0	38.0	-0.5	-2.0	-1.5	-8
E-1R	6	1	2	0.5	40.0	0.0	0.0	0.0	0.0
G-2R	6	1	2	0.5	37.5	0.0	-2.5	0.0	-10
H-2R	6	1	2	0.5	37.5	0.0	-2.5	0.0	-10
I-2R	6	1	2	1.0	35.5	0.5	-4.5	1.5	-18
L-2R	6	1	2	2.5	35.5	2.0	-4.5	6.1	-18
M-2R	6	1	2	0.5	36.5	0.0	-3.5	0.0	-14
O-1R	6	1	2	1.0	33.0	0.5	-7.0	1.5	-28

N/A

131

Survey Area: N/A	Survey Unit: EXTERIOR	Building: T771D
Survey Unit Description: ROOF + WALLS OF TRAILER T771D		

Total Surface Activity Data Sheet

Sample location	RCT ID #	Inst ID #		Survey count time (sec)		LAB (cpm)		Gross Count (gcpm)		Net counts (cpm)		Net Activity (dpm/100cm2)	
		α	β	α	β	α	β	α	β	α	β	α	β
G-1N	1	7	7	90	90	4.7	480	8.7	368	4	-112	18.6	-374
H-2N	1	7	7	90	90	2.7	492	7.3	351	4.6	-141	21.4	-471
I-1N	1	7	7	90	90	2.7	508	10	397	7.3	-111	34	-371
J-1N	1	7	7	90	90	6.7	487	5.3	319	-1.4	-168	-6.5	-561
J-2N	1	7	7	90	90	6	323	13.3	358	7.3	35	34	117
K-1N	1	7	7	90	90	4	429	6.7	385	2.7	-44	12.6	-147
K-2N	1	7	7	90	90	6	534	16.7	393	10.7	59	49.8	197
M-1N	1	7	7	90	90	5.3	331	10.7	361	5.4	30	25.1	100
M-2N	1	7	7	90	90	3.3	473	5.3	321	2	-152	9.3	-508
B-2W	1	7	7	90	90	3.3	345	11.3	363	8	18	37.2	60
B-2S	2	8	8	90	90	10	396	14	326	4	-70	19.0	-235
D-2S	2	8	8	90	90	6.7	339	12	294	5.3	-45	25.2	-151
H-2S	2	8	8	90	90	6	311	13.3	337	7.3	26	34.7	87
I-2S	2	8	8	90	90	11	297	10.7	311	-0.3	14	-1.4	47
K-1S	2	8	8	90	90	6.7	277	10.7	292	4	15	19	50
L-2S	2	8	8	90	90	9.3	291	10	331	0.7	40	3.3	134
N-2S	2	8	8	90	90	8	296	13.3	290	5.3	-6	25.2	-20
B-2E	2	8	8	90	90	5.3	289	12.7	290	7.4	1	35.2	3
A-2R	3	9	9	90	90	0.7	439	35.3	525	34.6	86	169.1	290
C-1R	3	9	9	90	90	3.3	445	36	499	32.7	54	159.8	182
C-2R	3	9	9	90	90	4	425	40.7	511	36.7	86	179.4	290
E-1R	3	9	9	90	90	3.3	455	27.3	565	24	110	117.3	370
G-2R	3	9	9	90	90	8.7	484	40.7	573	32	29	156.4	98
H-2R	3	9	9	90	90	4	414	55.3	559	51.3	145	250.7	488
I-2R	3	9	9	90	90	6.7	427	57.3	515	50.6	88	247.3	296
L-2R	3	9	9	90	90	2.7	455	58.7	530	56	75	273.7	253
M-2R	3	9	9	90	90	6	433	32.7	511	26.7	78	130.5	263
O-1R	3	9	9	90	90	8	409	55.3	535	47.3	126	231.2	424
K-1S QC	9	13	13	90	90	2.7	353	4.7	369	2	16	9.8	54
N-2S QC	9	13	13	90	90	2.7	323	9.3	341	6.6	18	32.3	61
G-1N QC	9	13	13	90	90	1.3	394	9.3	348	8	-46	39.1	-155
J-1N QC	9	13	13	90	90	4.7	417	14	385	9.3	-32	45.5	-108
N QC	9	13	13	90	90	2.7	406	12.7	356	10	-50	48.9	-160

Note: QC measurements are to be collected by a different technician than the original survey. Mark the QC location number in the "Sample Location" column. Material background is assumed to be zero unless otherwise noted. "LAB" – local area background.

132

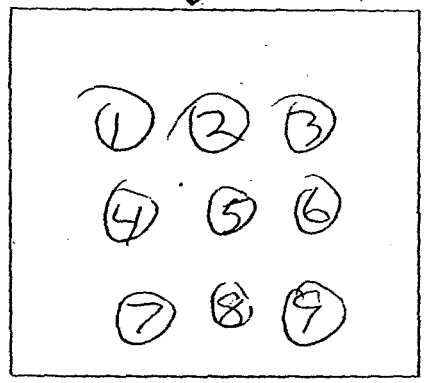
Final Survey NE Electra
Scan & Investigation Survey Map

Survey Area:	Survey Unit:	Building:
NA	EXTERIOR	T 771 D
Survey Unit Description: 9 POINT INVESTIGATION AND Q.C. SCAN		
RCT Initials/Date: PC 3-7-00	RCT Initials/Date: N/A	RCT Initials/Date: N/A

Refer to the Final Survey NE Electra Scan & Investigation Survey Form for instrumentation, surveyor & approval information.

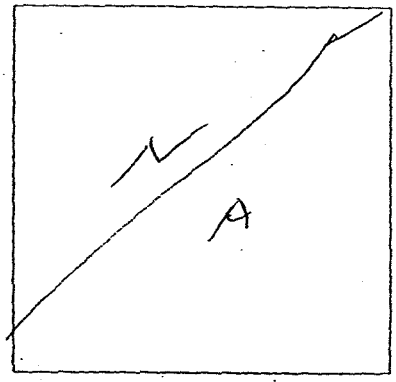
Legend: "R"- Roof, "W" – West Wall, "S" – South Wall, "E" – East Wall, "N" – North Wall "C" –Ceiling, "F" - Floor

9 POINT ROOF INVESTIGATION

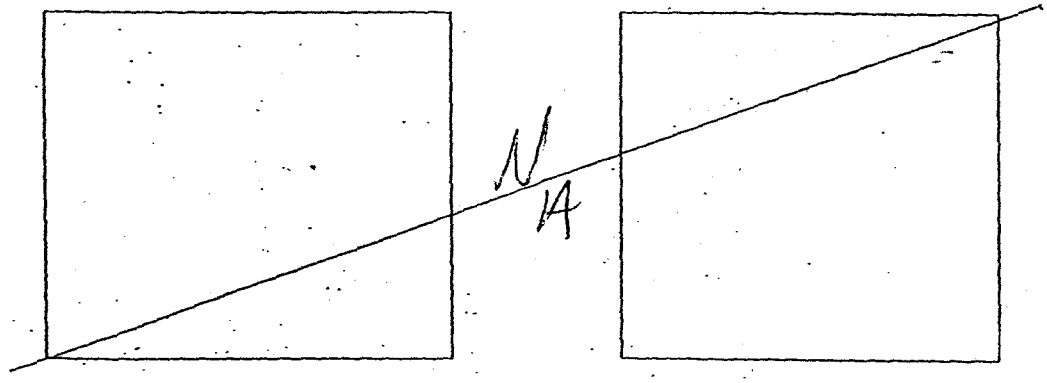


* L-2R

Q.C. SCAN



* K-15



*** Designates corner closest to A-1 point of reference**

Results/Comments:

Electra alpha scans were performed at the locations detailed on the survey map(s). All required accessible areas were scanned. All initial scan results were <225 dpm/100cm², unless noted on the survey form.

Electra beta scans were performed in required accessible areas. Initial scan results indicated no detectable activity above background unless noted on the survey form.

133

Final Survey NE Electra
Scan & Investigation Survey Form
(Continuation Sheet)

Survey Area: N/A	Survey Unit: EXTERIOR	Building: T771D

Survey Unit Description: 9 POINT ROOF INVESTIGATION + Q.C. SCAN

Loc. ID #	Electra DP-6 Beta				Electra DP-6 Alpha				
	RCT ID #	Inst. ID #	Elevated Audible observed? "Y" or "N"	60-sec PAT (dpm/100cm2)	RCT ID #	Inst. ID #	4-sec Audible observed? "Y" or "N"	30-sec Static (gcpm)	90-sec PAT (dpm/100cm²)
9 POINT ROOF INVESTIGATION									
L-2R1					7	10			153
L-2R2					7	10			209
L-2R3					7	10			153
L-2R4				N/A	7	10			160
L-2R5					7	10	N/A		212
L-2R6					7	10			147
L-2R7					7	10			225
L-2R8					7	10			173
L-2R9					7	10			137
Q.C. SCAN									
K-15	8	10	N	N/A	8	10	N	N/A	N/A

1M²A
174.3 dpm/100

N/A

Sample ID: 00A1148-019.001 **Type:** Unknown

Batch ID: unknowns
Acquisition Start: April 24, 2000 08:34:57
Analysis Date: April 24, 2000 12:00:58
Procedure: Po210 count
Device: Oasis:01:01
Analysis Method: ROI Analysis
Spectrum File: 00000460.OXS LiveTime: 12,297.00

Calibrations:
Energy = 3.865E+01 +2.790E+00 * Chn Coeff. of Correlation: -0.998
Calibration Date: April 03, 2000 17:45:10 Std: 1:1 energy cal
Shape not Calibrated.
Efficiency = 3.041E-01 ± 4.004E-03
Calibration Date: April 07, 2000 09:49:29 Std: TS4189

External Recovery No Ext.Recovery

Original Sample Amount:
1.000 ± 0.000 samp
Aliquot Amount: 1.000 ± 0.000 samp

ROI DATA

ROI ID #	ASSOCIATED NUCLIDE	EXTENTS START	EXTENTS END	PK EN (keV)	FWHM (keV)
1 Po218	Po218	5550.0	6104.5	5826.0	2.8
2 Po214	Po214	6588.5	7874.7	7229.6	1.4
3 Po212	Po212	8393.8	8808.6	8599.7	1.4
4 Po210	Po210	2180.3	5343.3	5187.0	3.5

ROI ANALYSIS RESULTS

ROI ID	NET COUNTS	BKG/INTERF	CPM	ROI TYPE
Po218	0.5 ± 1.0	0.53	2.28E-03 ± 4.95E-03	Unknown
Po214	-0.3 ± 0.1	0.32	-1.56E-03 ± 6.38E-04	Unknown
Po212	-0.1 ± 0.1	0.11	-5.21E-04 ± 3.68E-04	Unknown
Po210	732.5 ± 27.2	7.47	3.574 ± 0.133	Unknown

NUCLIDE ANALYSIS RESULTS

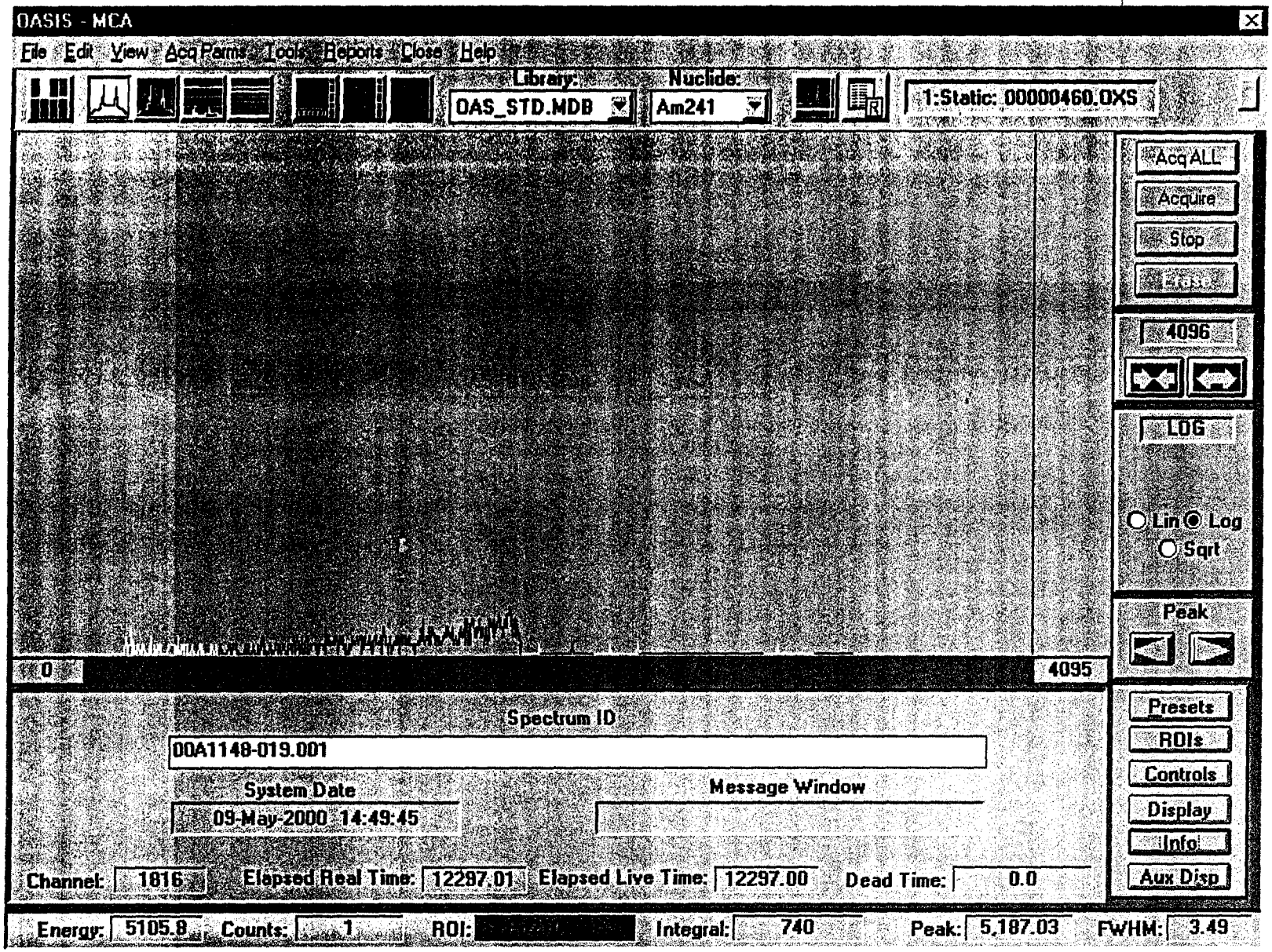
ROI ID	ASSOC NUC	EMM. PROB	ACTIVITY (dpm/samp)	MDA (dpm)
Po218	Po218	1.000	7.48E-03 ± 0.016	8.30E-02
Po214	Po214	1.000	-5.14E-03 ± 2.10E-03	7.41E-02
Po212	Po212	1.000	-1.71E-03 ± 1.21E-03	6.11E-02
Po210	Po210	1.000	11.755 ± 0.463	1.92E-01

Activity reported as of April 24, 2000 08:34:57

ANALYSIS REVIEWED BY: Cayce A Haas

APPROVED BY: C J Bianconi 4/24/00

136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File Edit View Acq Parms Tools Reports Close Help
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OAS_STD.MDB
Nuclide:
Am241
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Acquire
Stop
4096
LOG
Lin Log
Sqrt
Peak
0
4095
Spectrum ID
00A1148-019.001
System Date
09-May-2000 14:49:45
Message Window
Presets
ROIs
Controls
Display
Info
Aux Disp
Channel: 1816
Elapsed Real Time: 12297.01
Elapsed Live Time: 12297.00
Dead Time: 0.0
Energy: 5105.8
Counts: 1
ROI:
Integral: 740
Peak: 5,187.03
FWHM: 3.49

136

Oasis Device # 2

RFETS; Golden, CO
Apr 24, 2000 13:13:21

Sample ID: 00A1148-020.001 **Type:** Unknown

Batch ID: unknown
Acquisition Start: April 24, 2000 09:31:54
Analysis Date: April 24, 2000 13:12:30
Procedure: polonium210 samples
Device: Oasis:02:01
Analysis Method: ROI Analysis
Spectrum File: 00000301.OXS LiveTime: 10,800.00

Calibrations:
Energy = 2.127E+02 +2.333E+00 * Chn Coeff. of Correlation: -0.998
Calibration Date: March 14, 2000 09:19:39 Std: 2:1 energy cal
Shape not Calibrated.
Efficiency = 3.393E-01 ± 4.339E-03
Calibration Date: August 11, 1999 13:14:16 Std: AS 4188

External Recovery No Ext.Recovery

Original Sample Amount:
1.000 ± 0.000 samp
Aliquot Amount: 1.000 ± 0.000 samp

ROI DATA

ROI ID #	ASSOCIATED NUCLIDE	EXTENTS START	EXTENTS END	PK EN (keV)	FWHM (keV)
1 Po218	Po218	5552.6	6077.8	5814.6	1.2
2 Po214	Po214	7420.0	7770.1	7594.8	2.3
3 Po212		8521.5	8850.6	8684.3	1.2
4 Po210	Po210	2263.7	5402.1	5107.6	3.5

ROI ANALYSIS RESULTS

ROI ID	NET COUNTS	BKG/INTERF	CPM	ROI TYPE
Po218	-0.8 ± 0.2	0.76	-4.23E-03 ± 1.27E-03	Unknown
Po214	0.9 ± 1.0	0.07	5.17E-03 ± 5.57E-03	Unknown
Po212	-0.1 ± 0.1	0.14	-7.69E-04 ± 5.43E-04	Unknown
Po210	544.7 ± 23.6	13.35	3.026 ± 0.131	Unknown

NUCLIDE ANALYSIS RESULTS

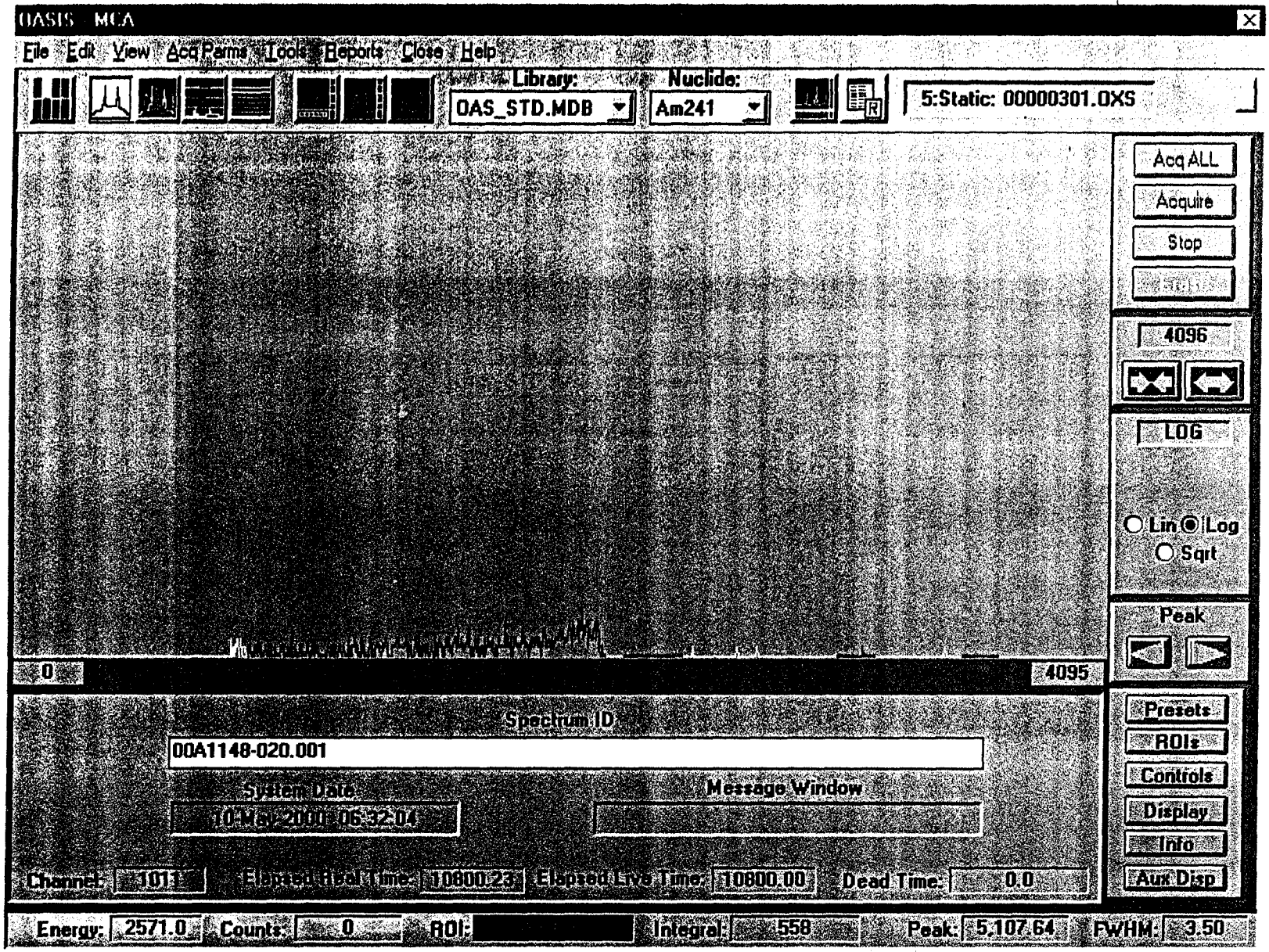
ROI ID	ASSOC NUC	EMM. PROB	ACTIVITY (dpm/samp)	MDA (dpm)
Po218	Po218	1.000	-1.25E-02 ± 3.76E-03	9.29E-02
Po214	Po214	1.000	0.015 ± 0.016	5.90E-02
Po212		1.000	-2.27E-03 ± 1.60E-03	6.50E-02
Po210	Po210	1.000	8.918 ± 0.404	2.48E-01

Activity reported as of April 24, 2000 09:31:54

ANALYSIS REVIEWED BY: [signature]

APPROVED BY: C J Biancani 5/9/00

137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File Edit View Acq Parms Tools Reports Close Help
Library:
OAS_STD.MDB
Nuclide:
Am241
5:Static: 00000301.0XS
Acq ALL
Acquire
Stop
4096
LOG
Lin Log
Sqrt
Peak
0
4095
Spectrum ID
00A1148-020.001
System Date
10-May-2000 06:32:04
Message Window
Presets
ROIs
Controls
Display
Info
Aux Disp
Channel: 1011
Elapsed Real Time: 10800.23
Elapsed Live Time: 10800.00
Dead Time: 0.0
Energy: 2571.0
Counts: 0
ROI:
Integral: 558
Peak: 5,107.64
FWHM: 3.50

135

Sample ID: 00A1148-021.001 **Type:** Unknown

Batch ID: unknowns
Acquisition Start: May 03, 2000 16:40:24
Analysis Date: May 04, 2000 09:10:00
Procedure: Po210 count
Device: Oasis:01:01
Analysis Method: ROI Analysis
Spectrum File: 00000533.OXS LiveTime: 51,200.00

Calibrations:
Energy = 3.865E+01 +2.790E+00 * Chn Coeff. of Correlation: -0.998
Calibration Date: April 03, 2000 17:45:10 Std: 1:1 energy cal
Shape not Calibrated.
Efficiency = 3.041E-01 ± 4.004E-03
Calibration Date: April 07, 2000 09:49:29 Std: TS4189

External Recovery No Ext.Recovery

Original Sample Amount:
1.000 ± 0.000 samp
Aliquot Amount: 1.000 ± 0.000 samp

ROI DATA

ROI ID #	ASSOCIATED NUCLIDE	EXTENTS START	EXTENTS END	PK EN (keV)	FWHM (keV)
1 Po218	Po218	5550.0	6104.5	6046.5	3.5
2 Po214	Po214	6588.5	7874.7	7676.1	4.2
3 Po212	Po212	8393.8	8808.6	8772.8	11.2
4 Po210	Po210	2180.3	5343.3	5228.9	6.2

ROI ANALYSIS RESULTS

ROI ID	NET COUNTS	BKG/INTERF	CPM	ROI TYPE
Po218	47.6 ± 7.3	2.37	0.056 ± 8.52E-03	Unknown
Po214	30.8 ± 5.8	1.19	0.036 ± 6.77E-03	Unknown
Po212	47.3 ± 7.6	4.74	0.055 ± 8.90E-03	Unknown
Po210	2,565.6 ± 51.4	34.37	3.007 ± 0.060	Unknown

NUCLIDE ANALYSIS RESULTS

ROI ID	ASSOC NUC	EMM. PROB	ACTIVITY (dpm/samp)	MDA (dpm)
Po218	Po218	1.000	0.184 ± 0.028	3.93E-02
Po214	Po214	1.000	0.119 ± 0.022	3.08E-02
Po212	Po212	1.000	0.182 ± 0.029	5.12E-02
Po210	Po210	1.000	9.888 ± 0.237	1.20E-01

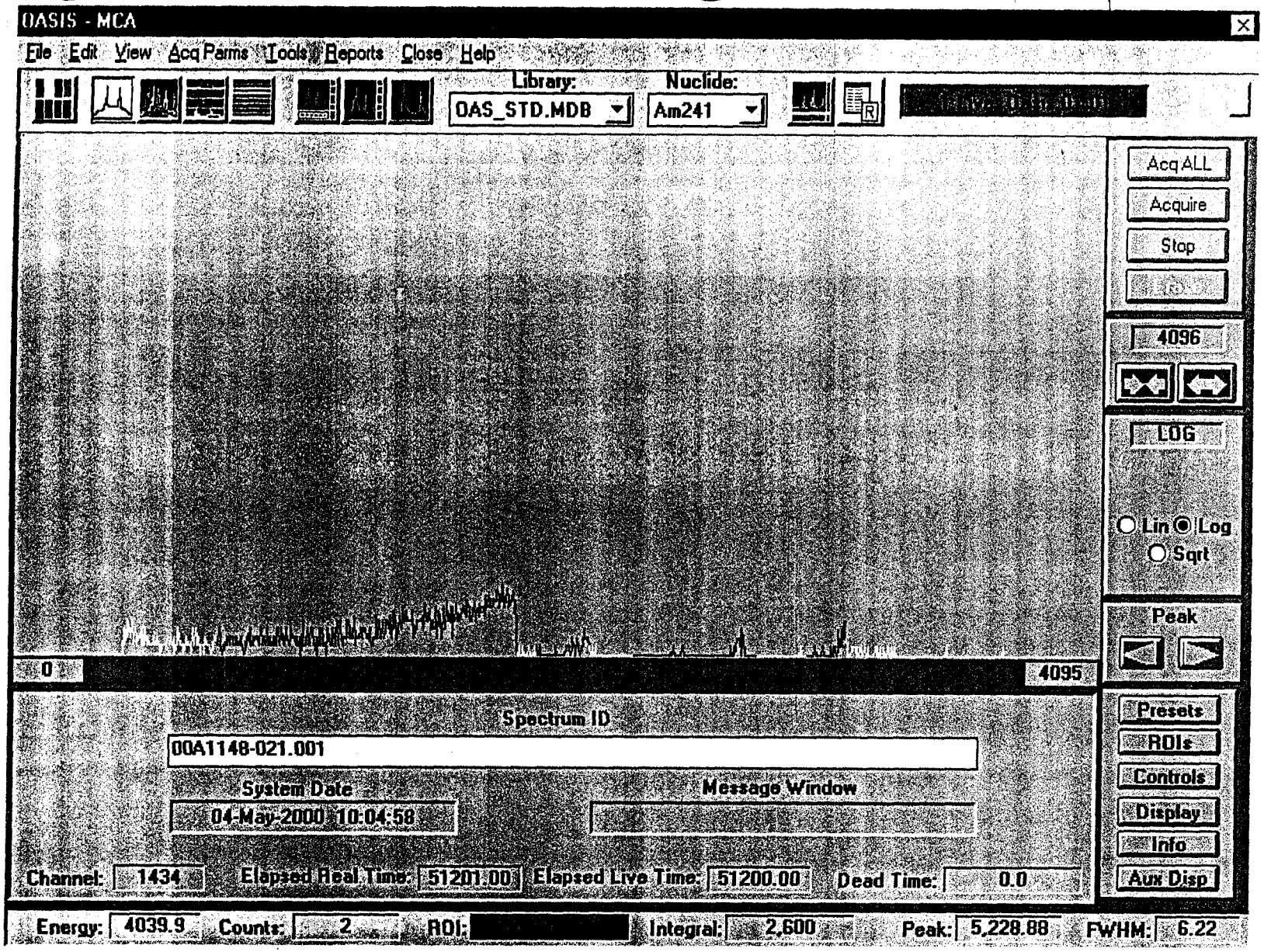
Activity reported as of May 03, 2000 16:40:24

ANALYSIS REVIEWED BY: [signature]

APPROVED BY: CJ Bruscomi 5/9/00

spike activity: ~22.892 dpm

139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File Edit View Acq Parms Tools Reports Close Help
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OAS_STD.MDB
Nuclide:
Am241
Acq ALL
Acquire
Stop
4096
LOG
Lin Log
Sqrt
Peak
0
4095
Spectrum ID
00A1148-021.001
System Date
04-May-2000 10:04:58
Message Window
Presets
ROIs
Controls
Display
Info
Aux Disp
Channel: 1434
Elapsed Real Time: 51201.00
Elapsed Live Time: 51200.00
Dead Time: 0.0
Energy: 4039.9
Counts: 2
ROI:
Integral: 2,600
Peak: 5,228.88
FWHM: 6.22

D-2

T771D – Radiological Survey Data for Interior Survey Unit

- Map of Locations
  - Scans
  - Surveys
- Removable and Total Survey Results - Detail

2376/1421 2.7/407
20.46 8.23.00
24.7

SCAN LOCATIONS:

T771D Interior

West Room

North Wall

	A	B	C	D	E
2					
1					

West Wall

	A	B	C
2			
1			

South Wall

	A	B	C	D	E
2					
1					

East Wall

	A	B	C
2			
1			

East Room

North Wall

	A	B	C	D	E	F	G	H	I
2									
1									

West Wall

	A	B	C
2			
1			

South Wall

	A	B	C	D	E	F	G	H	I
2									
1									

East Wall

	A	B	C
2			
1			

Floor

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
3			X	X			X							
2			X	X			X			X	X	X	X	X
1			X	X			X		X			X	X	

Ceiling

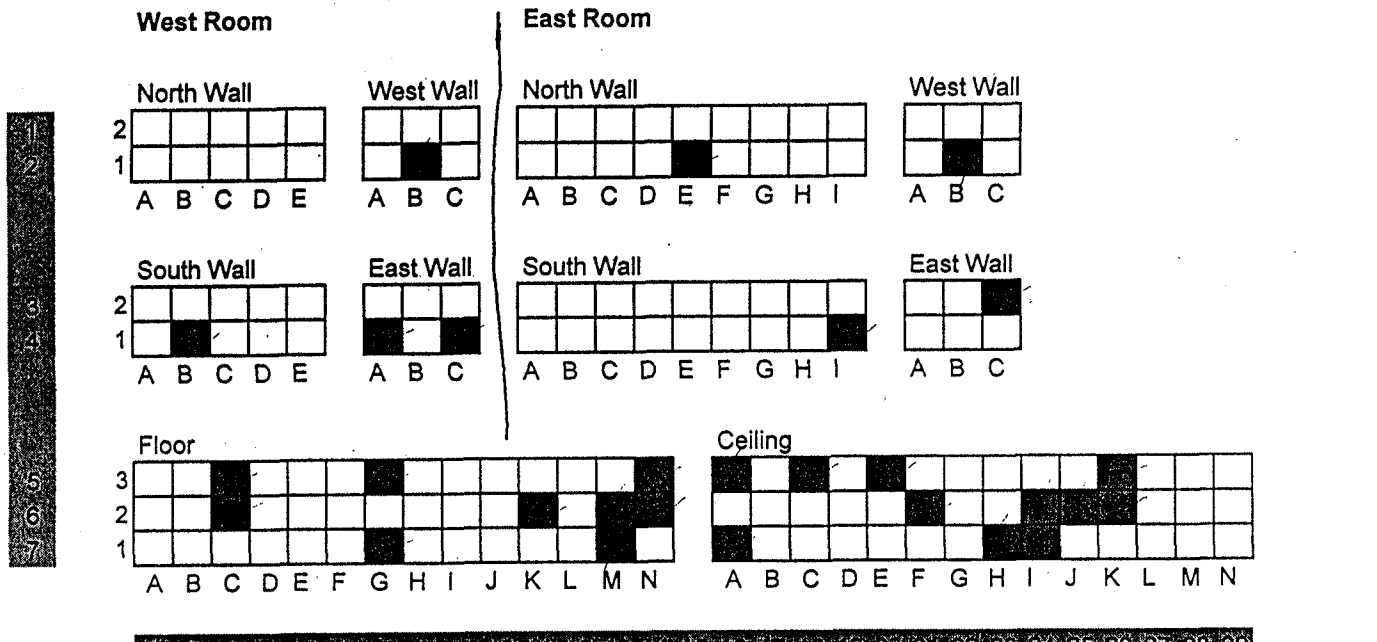
	A	B	C	D	E	F	G	H	I	J	K	L	M	N
3														
2														
1														

PAGE 3 of 7

3 [illegible] 3/1/00

142

T771D Interior



X-Coordinate	Y-Coordinate
19	4

= one square meter

= direct & swipe

	X	Y		X	Y		X	Y
1	8	2	11	9	4	21	23	7
2	13	7	12	26	5	22	20	5
3	22	2	13	3	5	23	19	4
4	16	5	14	15	2	24	2	4
5	14	6	15	7	7	25	13	6
6	11	6	16	25	6	26	7	5
7	21	6	17	24	6	27	16	7
8	18	5	18	3	6	28	24	7
9	7	4	19	14	5			
10	26	6	20	23	3			

Total Surface Area = 164 m^2

10% Scan Surface Area = 16.4 m^2

Survey Area: NA	Survey Unit: INTERIOR	Building: T771D
Survey Unit Description: FLOOR, WALLS, CEILING		

Total Surface Activity Data Sheet

Sample location	RCT ID #	Inst ID #		Survey count time (sec)		LAB (cpm)		Gross Count (gcpm)		Net counts (cpm)		Net Activity (dpm/100cm2)	
		α	β	α	β	α	β	α	β	α	β	α	β
MAIN E-2F	2	7	7	90	90	4.7	499	4.0	513	-0.7	14	-3.4	47
C-3F	2	7	7	90	90	2.7	453	0.7	440	-2.0	-13	-9.8	-44
G-1F	2	7	7	90	90	6.0	488	0.7	505	-5.3	17	-25.9	57
G-3F	2	7	7	90	90	4.7	462	1.3	444	-3.4	-18	-16.6	-61
K-2F	2	7	7	90	90	1.3	464	1.3	491	0	27	0	91
M-1F	2	7	7	90	90	3.3	431	1.3	463	-2.0	32	-9.8	108
M-2F	2	7	7	90	90	2.7	446	5.3	499	2.6	53	12.7	178
N-2F	2	7	7	90	90	3.3	466	1.3	479	-2.0	13	-9.8	44
N-3F	2	7	7	90	90	3.3	438	1.3	430	-2.0	-8	-9.8	-27
A-1C	3	8	8	90	90	5.3	375	2.0	359	-3.3	-16	-15.8	-56
A-3C	3	8	8	90	90	6.0	357	2.0	415	-4.0	58	-19.1	202
C-3C	3	8	8	90	90	6.0	403	6.7	421	0.7	18	3.4	63
F-2C	3	8	8	90	90	5.3	388	5.3	457	0	49	0	171
H-1C	3	8	8	90	90	6.0	376	4.0	402	-2.0	26	-9.6	91
I-1C	3	8	8	90	90	2.7	372	5.3	367	2.6	-5	12.4	~~-17~~
I-2C	3	8	8	90	90	4.7	377	6.7	387	2.0	10	9.6	35
J-2C	3	8	8	90	90	4.7	349	3.3	370	-1.4	21	-6.7	73
K-2C	3	8	8	90	90	4.0	363	7.3	397	3.3	34	15.8	119
K-3C	3	8	8	90	90	5.3	401	5.3	395	0	-6	0	-21
T.R. C-2E	1	9	9	90	90	6.0	393	6.0	403	0	10	0	35
E-1N	1	9	9	90	90	4.7	365	4.7	347	0	-18	0	~~-51.5~~ -54
I-1S	1	9	9	90	90	2.7	391	3.3	306	0.6	-85	2.7	~~-240~~ -28
B-1W	1	9	9	90	90	2.0	384	0.7	323	-1.3	-61	-5.8	~~-224~~ -20
T.R. B-1S	1	9	9	90	90	4.0	377	4.7	299	0.7	-78	3.1	-257
B-1W	1	9	9	90	90	2.7	370	2.7	305	0	-65	0	-214
A-1E	1	9	9	90	90	6.7	385	4.0	339	-2.7	-46	-12.1	-152
C-1E	1	9	9	90	90	3.0	374	2.0	313	-1.0	-61	-4.5	-201
E-1N QC	8	7	7	90	90	4.0	371	6.0	319	2.0	-52	8.9	-171
B-1W QC	8	7	7	90	90	4.0	399	6.7	389	2.7	-10	13.2	-34
K-3C QC	8	7	7	90	90	2.7	341	6.0	369	3.3	28	16.1	94
B-1W QC	8	7	7	90	90	2.7	425	3.3	451	0.6	26	2.9	88
C QC	8	7	7	90	90	3.3	409	4.7	425	1.4	16	6.8	54
						5.3	371	2.0	447	-3.3	76	-16.1	256

Note: QC measurements are to be collected by a different technician than the original survey. Mark the QC location number in the "Sample Location" column. Material background is assumed to be zero unless otherwise noted. "LAB" ~ local area background.

Survey Area: N/A	Survey Unit: INTERIOR	Building: T771D
Survey Unit Description: INTERIOR		

Removable Contamination Data Sheet

Sample Location	RCT ID #	Inst ID #		Gross Counts (gcpm)		Net Counts (cpm)		Removable Activity (dpm/100cm2)	
		α	β	α	β	α	β	α	β
C-2F	~~AB~~1	1	2	0	43	-0.5	2.1	-1.5	8.4
C-3F	1	3	4	0	40	-0.6	3.7	-1.8	14.8
G-3F	1	1	2	1.5	42.5	1.0	1.6	3.0	6.4
G-1F	1	3	4	0	39.5	-0.6	3.2	-1.8	12.8
K-2F	1	1	2	1.0	30.5	0.5	-10.4	1.5	~~-41.6~~ -41.6
M-1F	1	3	4	0.5	44.5	-0.1	8.2	-0.3	32.8
M-2F	1	1	2	0	39.5	-0.5	-1.4	-1.5	-5.6
N-2F	1	3	4	0	36.5	-0.6	0.2	-1.8	0.8
N-3F	1	1	2	.5	45	0.0	4.1	0	16.4
A-1C	1	3	4	~~.5~~	40	-0.1	3.7	-0.3	14.8
A-3C	1	1	2	.5	37.5	0	-3.4	0	-13.6
C-3C	1	3	4	.5	40.5	~~-0.1~~ -0.1	4.7	~~-0.3~~ -0.3	16.8
E-3C	1	1	2	0	36.5	-0.5	-4.4	-1.5	-17.6
E-2C	1	3	4	.5	37	-0.1	0.7	-0.3	2.8
E-1C	1	1	2	.5	42.5	0	1.6	0	6.4
I-1C	1	3	4	.5	34.5	-0.1	-1.8	-0.3	-7.2
I-2C	1	1	2	0	44.5	-0.5	3.6	-1.5	14.4
J-2C	1	3	4	0	42.5	-0.6	6.2	-1.8	24.8
K-2C	1	1	2	1	37.5	0.5	-3.4	1.5	-13.6
K-3C	1	3	4	.5	46.5	-0.1	10.2	-0.3	40.8
B-1W	1	1	2	.5	41.5	0	0.6	0	2.4
B-1S	1	3	4	0	38.5	-0.6	2.2	-1.8	8.8
A-1E	1	1	2	.5	44.0	0	3.1	0	12.4
C-1E	1	3	4	.5	30.5	-0.1	-5.8	-0.3	-23.2
E-1N	1	1	2	0	37.5	-0.5	-3.4	-1.5	-13.6
B-1W	1	3	4	1.5	48.0	0.9	11.7	2.7	46.8
I-1S	1	1	2	0	43.5	-0.5	2.6	-1.5	10.4
C-2E	1	3	4	.5	34.0	-0.1	-2.3	-0.3	-9.2

N/A

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D-3

T771D – Asbestos Inspector's Report

T771D

ASBESTOS INSPECTOR'S REPORT

I, the undersigned Certified Asbestos Inspector, certification # 1387 in the state of Colorado, attest to the asbestos inspection and sampling results as described below, for the following facility (at RFETS): Trailer 771D.

General Facility Location: Northwest Buffer Zone; east of current landfill.

INSPECTION RESULTS
Trailer 771D contains wood ceiling panels and fiberglass wall insulation. No other suspect asbestos containing materials were identified and no samples were collected.

SAMPLE RESULTS
None required; none taken.

Andre Gonzalez		7/12/00
INSPECTOR'S NAME	SIGNATURE	DATE

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D-4

D&D Facility Characterization Interview Checklist

Type 1 Facility Checklist

D&D Facility Characterization Interview Checklist

ID No:T771D
Date: 6/22/99

Groups B & C Series

Check List for - Title: D&D Facility Characterization – Interviews

CRITERIA:
- Λ *D&D Characterization Protocol*, RFETS MAN-077-DDCP, Rev. 0
- Λ *Facility Disposition Program Manual*, RFETS MAN-076-FDPM
- Λ RFETS Radiological Safety Practices, January 12, 1998

Facility Name & Type (1, 2, or 3) TRAILER (T771D), GROUP B TYPE 1 FACILITY, UNOCCUPIED OFFICE TRAILER
Personnel Interviewed (Name & Title/Function) JACK WEAVER(Retired), Currently B771 Contract Proj Mgr, X7571, Laura Reese, B771 Logistics, X4512

	– Y/N –
Does a current WSRIC exist for the facility?	N
If so, are there exceptions to the WSRIC as written?	No WSRIC, No Exceptions

COMMENTS (incl. WSRIC contacts)
WSRIC contact is James M. Schoen who is in charge of the WSRIC Reports, T130J, X3579, C-83.

Are rad surveys available that indicate current status of the facility?	N
Are historical rad surveys available that indicate historical status, or evolution, of the facility?	N

COMMENTS

Is an HRR available for the facility?	N
Do any other reports exist beyond the HRR (e.g., spill reports, reportable incidents, etc.) that further characterize the facility relative to chemical &/or radiological contamination?	N
Are engineering drawings (esp. "as-builts") available?	N
Are any nonconformances or issues with the facility status currently being tracked in PATS?	N

If so, what are the issues (note in Comments, below)?
COMMENTS

Have any types of chemical characterization, incl. Asbestos, been performed recently?	N

If so, what types of characterization were performed (note in Comments, below)?
COMMENTS No characterization data exist according to Kevin Sheehan, X7250, T452D, Room C-1, for asbestos. Kevin maintains a list of PACM buildings. No other potential hazardous information was located.

Interviewed by: Roy G. Alexander/ JR Shutts for Roy G. Alexander 6/17/99
Print Name Signature Interview Date

D&D Facility Characterization Interview Checklist

ID No:T771D
Date: 6/22/99

What timeframe did the interviewee work in the facility? Neither of the interviewee's worked in this trailer. They Know of the history due to their B771 tenure. Jack Weaver has worked in B771 since 1961, Laura Reese since 1991.

Has the building configuration changed since you worked in the building? If so, in what way? No.

What types of equipment were in the building during the interviewee's time there? This was an office facility. Only the forced air furnace and a copier.

Where was the equipment located? (specific rooms/areas) The furnace is currently still installed, it is located about midway of the trailer on the south wall, the copier was located about in the middle of the trailer on the north wall.

Were any radioactive materials or metals handled in the building? If so, what types? N/A

Which equipment handled radioactive material? N/A

Were any chemicals handled in the building? If so, what types? N/A

Did any spills or uncontrolled releases of radioactive materials or chemicals occur while you were working in the facility? No.

Were these spills/releases cleaned-up? How were they cleaned-up? N/A

Where did these spills/releases occur? N/A

Interviewed by: Roy Alexander / for Roy Alexander / 6/17/99

Print Name Signature Interview Date

Type 1 Facility Checklist

TYPE 1 FACILITY BUILDING T-771D

CURRENT LANDLORD: RMRS

DATE OF COMPLETION: 02/29/00

ITEM	YES	NO
Does the facility contain radiological postings?		X
Does the facility contain chemical postings?		X
Are there any installed hazards?		X
Is there any information that indicates this facility was Impacted by DOE chemical and/or radiological operations?		X
Are there RCRA units within the facility		X
Is there a history of the building available?	X	
Is there any equipment/furniture left in the facility?		X
Is there a future mission identified for the facility?		X
Will the facility be left unsecured after it is vacated?		X

If any answer to any of the above questions is "Yes", complete the following questions and complete the "graded" PEP in accordance with Chapter 2.

Note: An answer of "Yes" to any question, specifically one dealing with hazards, ***may*** *indicate the facility is not a Type 1 Facility. Check with the D&D Programs office.*

If the answer to all question is "No" complete the "graded" PEP in accordance with Chapter 2.

1. List the Radiological Hazards, location, and quantity:

   Based on the historical data found and interviews taken there are no hazards in this trailer.

2. List the Chemical Hazards, location, and quantity:

   None. Based on historical data and interviews taken there are no chemical hazards in this trailer. There may be asbestos in the floor tile and lead in the paint.

3. List the Physical Hazards:

   NONE

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E-1

T331 – Radiological Survey Data for Exterior Survey Unit

- Summary of Radiological Survey/Sample Results
- Map of Locations
  - Scans
  - Surveys
- Removable and Total Survey Results – Detail
- Laboratory Alpha Spec (Sample) Results – Detail

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Radiological Survey/Sample Results for T331

Total Surface Activity Measurements dpm/100 cm^2

	Alpha	Beta
Interior	# Required	# Obtained
	28	28
MIN	-10	-341
MAX	52	593
MEAN	16.5	-75.0
STD DEV	17.6	244.6
Exterior	# Required	# Obtained
	28	28
MIN	-25.2	-441
MAX	136.9	263
MEAN	21.2	-64.8
STD DEV	41.1	219.5
$DCGL_W$	100	5000

Removable Activity Measurements dpm/100 cm^2

	Alpha	Beta
Interior	# Required	# Obtained
	28	28
MIN	-1.5	-33.2
MAX	4.8	44.0
MEAN	0.8	-1.6
STD DEV	1.8	21.2
Exterior	# Required	# Obtained
	28	28
MIN	-1.2	-52
MAX	12.0	30
MEAN	1.0	-7.9
STD DEV	2.7	17.5
$DCGL_W$	20	1000

Media Sample Activity

# Required	# Obtained
2	2

Contaminant	Y/N	Det. Sens. dpm/100 cm^2
U present	N	79
Pu present	N	79

Total Po-210 Results dpm/100 cm^2

MIN	2.7
MAX	19.8
MEAN	11.3
STD DEV	2.9

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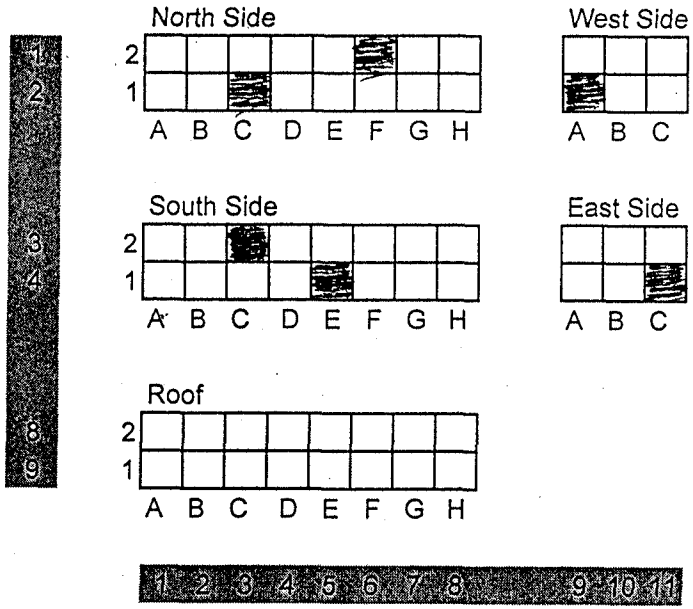
SCAN LOCATIONS:

T331 Exterior



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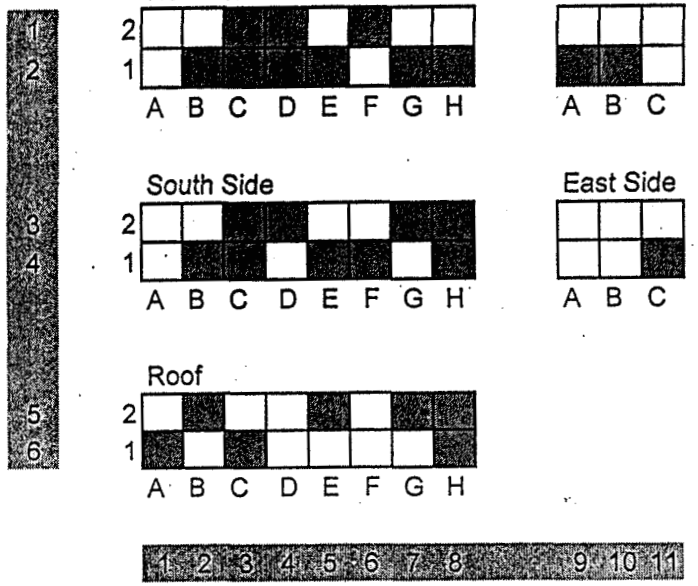
T331 Exterior



X-Coordinate	Y-Coordinate
10	4

= one square meter

= direct & swipe

Total Surface Area = 60 m^2

10% Scan Surface Area = 6 m^2

	X	Y		X	Y		X	Y
1	3	6	11	4	1	21	1	6
2	4	2	12	3	2	22	8	2
3	5	2	13	9	2	23	8	4
4	5	5	14	7	2	24	6	4
5	2	4	15	3	4	25	8	3
6	4	3	16	8	6	26	7	3
7	2	5	17	10	2	27	2	2
8	8	5	18	6	1	28	3	3
9	3	1	19	11	4			
10	5	4	20	7	5			

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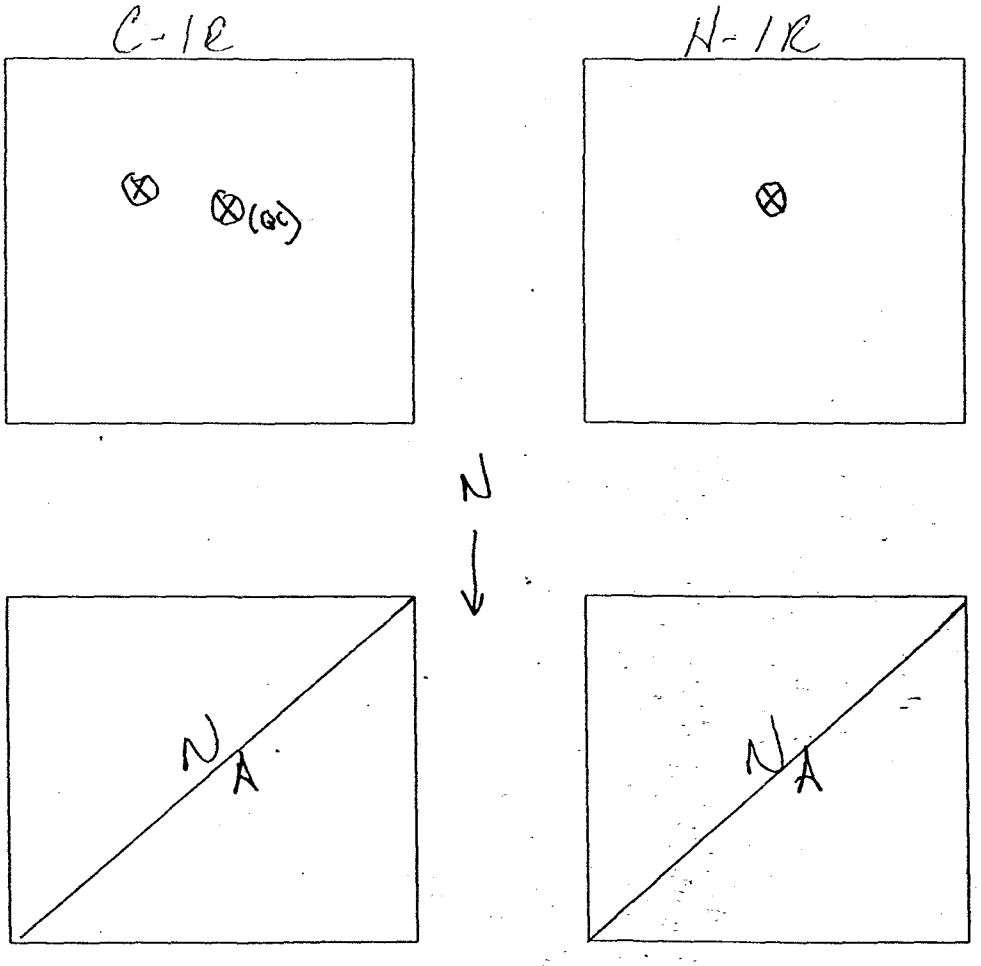
Final Survey NE Electra
Scan & Investigation Survey Map

Survey Area: N/A	Survey Unit: EXTERIOR	Building: T331
Survey Unit Description: ROOF SAMPLE LOCATIONS		
RCT Initials/Date: MBR 3/28/00	RCT Initials/Date: NA	RCT Initials/Date: NA

Refer to the Final Survey NE Electra Scan & Investigation Survey Form for instrumentation, surveyor & approval information.

Legend: "R"- Roof, "W" – West Wall, "S" – South Wall, "E" – East Wall, "N" – North Wall "C" –Ceiling, "F" - Floor



⊗ SAMPLE CUT OUT

*** Designates corner closest to A-1 point of reference**

Results/Comments:
Electra alpha scans were performed at the locations detailed on the survey map(s). All required accessible areas were scanned. All initial scan results were <225 dpm/100cm², unless noted on the survey form.
Electra beta scans were performed in required accessible areas. Initial scan results indicated no detectable activity above background unless noted on the survey form.

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Survey Area: NA	**Survey Unit:** EXTERIOR	**Building:** T331
Survey Unit Description ROOF SAMPLE LOCATIONS		

Removable Contamination Data Sheet

Sample location	RCT ID #	Inst ID #		Gross Counts (gcpm)		Net Counts (cpm)		Removeable Activity (dpm/100cm2)	
		α	β	α	β	α	β	α	β
PRE						0	0	0.0	0
C-1R	1	1	2	0.5	40.5	0	2.4	0.0	10
POST						0	0	0.0	0
C-1R	1	3	4	0	39.5	-0.6	0.7	-1.8	3
PRE						0	0	0.0	0
C-1RQC	1	1	2	0.5	26	0	-12.1	0.0	-48
POST						0	0	0.0	0
C-1RQC	1	3	4	0.5	32.5	-0.1	-6.3	-0.3	-25
PRE						0	0	0.0	0
H-1R	1	1	2	0.5	39	0	0.9	0.0	4
POST						0	0	0.0	0
H-1R	1	3	4	1	38	0.4	-0.8	1.2	-3
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0

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Survey Area: NA	**Survey Unit:** EXTERIOR	**Building:** T331
Survey Unit Description ROOF SAMPLE LOCATIONS		

Total Surface Activity Data Sheet

Sample location	RCT ID #	Inst ID #		Survey count time (sec)		Gross Count (gcpm)		LAB (cpm)		Net counts (cpm)		Net Activity (dpm/100cm2)	
		α	β	α	β	α	β	α	β	α	β	α	β
PRE				90	90					0.0	0	0.0	0
C-1R	1	7	7	90	90	14.7	407	5.3	364	9.4	43	45.1	144
POST				90	90					0.0	0	0.0	0
C-1R	1	7	7	90	90	16.0	386	4.0	378	12.0	8	57.6	27
PRE				90	90					0.0	0	0.0	0
C-1RQC	2	8	8	90	90	18.7	424	6.7	405	12.0	19	58.7	64
POST				90	90					0.0	0	0.0	0
C-1RQC	2	8	8	90	90	13.3	429	6.0	411	7.3	18	35.7	61
PRE				90	90					0.0	0	0.0	0
H-1R	1	7	7	90	90	19.3	416	6.7	391	12.6	25	60.4	84
POST				90	90					0.0	0	0.0	0
H-1R	1	7	7	90	90	18.7	393	7.3	387	11.4	6	54.7	20
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
QC				90	90					0.0	0	0.0	0
QC				90	90					0.0	0	0.0	0
QC				90	90					0.0	0	0.0	0
QC				90	90					0.0	0	0.0	0
QC				90	90					0.0	0	0.0	0

N/A

QC measurements are to be collected by a different technician than the original survey. Mark the QC location number in the "Sample Location" column. Material background is assumed to be zero unless otherwise noted. "LAB" – local area background. Page 3 of 5

Survey Area: N/A	Survey Unit: EXTERIOR	Building: T331
Survey Unit Description: ROOF + WALLS OF TRAILER T331.		

Removable Contamination Data Sheet

Sample Location	RCT ID #	Inst ID #		Gross Counts (gcpm)		Net Counts (cpm)		Removable Activity (dpm/100cm2)	
		α	β	α	β	α	β	α	β
B-1N	6	1	2	0.5	37	0	-3	0	-12
C-1N	6	3	4	0.5	44.5	0.1	2	0.3	8
C-2N	6	1	2	0.5	47.5	0	7.5	0	30
D-1N	6	3	4	0.5	41.5	0.1	-1	0.3	-4
D-2N	6	1	2	2	35.5	1.5	-4.5	4.5	-18
E-1N	6	3	4	0.5	45.5	0.1	3	0.3	12
E-2N	6	1	2	0.5	40.5	0	0.5	0	2
G-1N	6	3	4	0.5	41.5	0.1	-1	0.3	-4
H-1N	6	1	2	0.5	27	0	-13	0	-52
A-1W	6	3	4	0.5	39	0.1	-3.5	0.3	-14
B-1W	6	1	2	2	41	1.5	1	4.5	4
B-1S	6	3	4	1	36	0.6	-6.5	1.8	-26
C-1S	6	1	2	2	43	1.5	3	4.5	12
D-1S	6	3	4	0	44.5	-0.4	2	-1.2	8
D-2S	6	1	2	0.5	35.5	0	-4.5	0	-18
E-1S	6	3	4	0	34	-0.4	-8.5	-1.2	-34
F-1S	6	1	2	0.5	36.5	0	-3.5	0	-14
G-2S	6	3	4	0.5	33	0.1	-9.5	0.3	-38
H-1S	6	1	2	1	39.5	0.5	-0.5	1.5	-2
H-2S	6	3	4	0.5	42	0.1	-0.5	0.3	-2
C-1E	6	1	2	1	40.5	0.5	0.5	1.5	2
A-1R	6	3	4	0.5	36	0.1	-6.5	0.3	-26
B-2R	6	1	2	0.5	37	0	-3	0	-12
C-1R	6	3	4	0.5	43	0.1	0.5	0.3	2
E-2R	6	1	2	4.5	35.5	4.0	-4.5	12 HP	-18
G-2R	6	3	4	0	45.5	-0.4	3	-1.2	12
H-1R	6	1	2	0.5	38.5	0	-1.5	0	-6
H-2R	6	3	4	0	39	-0.4	-3.5	-1.2	-14
						N/A			

158

Survey Area: N/A	Survey Unit: EXTERIOR	Building: T331
Survey Unit Description: ROOF & WALLS OF TRAILER T331.		

Total Surface Activity Data Sheet

Sample location	RCT ID #	Inst ID #		Survey count time (sec)		LAB (cpm)		Gross Count (gcpm)		Net counts (cpm)		Net Activity (dpm/100cm2)	
		α	β	α	β	α	β	α	β	α	β	α	β
B-1N	1	7	7	90	90	0.7	373	7.3	263	6.6	-110	30.7	-367
C-1N	1	7	7	90	90	4.7	395	6.7	265	2	-130	9.3	-434
C-2N	1	7	7	90	90	6	253	10	306	4	53	18.6	177
D-1N	1	7	7	90	90	8.7	366	6.7	269	-2	-97	-9.3	-324
D-2N	1	7	7	90	90	8.7	360	6	282	-2.7	-78	-12.6	-261
E-1N	1	7	7	90	90	8.7	375	11.3	283	2.6	-92	12.1	-307
F-2N	1	7	7	90	90	6	314	9.3	297	3.3	-17	15.4	-57
G-1N	1	7	7	90	90	9.3	306	4.7	294	-4.6	-12	-21.4	-40
H-1N	1	7	7	90	90	4	402	4	270	0	-132	0	-441
A-1W	1	7	7	90	90	8	398	5.3	285	-2.7	-113	-12.6	-377
B-1W	1	7	7	90	90	6.7	413	2.7	283	-4	-130	-18.6	-434
B-1S	2	8	8	90	90	9.3	240	8.7	289	-0.6	49	-2.9	164
C-1S	2	8	8	90	90	10	291	9.3	291	-0.7	0	-3.3	0
C-2S	2	8	8	90	90	6.7	260	15.3	271	8.6	11	40.9	37
D-2S	2	8	8	90	90	4.7	297	10	293	5.3	-4	25.2	-13
E-1S	2	8	8	90	90	6	276	8	256	2	-20	9.5	-67
F-1S	2	8	8	90	90	5.3	241	4.7	232	-0.6	-9	-2.9	-30
G-2S	2	8	8	90	90	8.7	240	7.3	271	-1.4	31	-6.7	104
H-1S	2	8	8	90	90	11.3	249	6.7	259	-4.3	10	-20.4	34
H-2S	2	8	8	90	90	12.7	244	10.7	260	-2	16	-9.5	54
C-1E	2	8	8	90	90	11.3	238	6	255	-5.3	17	-25.2	57
A-1R	3	9	9	90	90	6	359	16.7	437	10.7	78	52.3	263
B-2R	3	9	9	90	90	4.7	384	32.7	333	28	-51	136.9	-172
C-1R	3	9	9	90	90	2	387	18.7	435	16.7	48	81.6	162
E-2R	3	9	9	90	90	27	385	17.3	410	14.6	25	71.4	84
G-2R	3	9	9	90	90	5.3	413	20.7	404	15.4	-9	75.3	-30
H-1R	3	9	9	90	90	4.7	378	21.3	433	16.6	55	81.1	185
H-2R	3	9	9	90	90	4.7	378	20.7	443	16	65	78.2	219
G-1WQC	9	12	12	90	90	2.7	312	6.7	388	4	76	19.6	256
D-1WQC	9	12	12	90	90	2.7	309	4.7	336	2	27	9.8	91
C-1WQC	9	12	12	90	90	0.7	308	6.7	337	6	29	29.3	98
B-1WQC	9	12	12	90	90	1.3	315	6	284	4.7	-31	23.0	-104
C-1EQC	9	12	12	90	90	3.3	314	8	299	4.7	-15	23.0	77

Note: QC measurements are to be collected by a different technician than the original survey. Mark the QC location number in the "Sample Location" column. Material background is assumed to be zero unless otherwise noted. "LAB" ~ local area background.

159

Survey Area: N/A	Survey Unit: EXTERIOR	Building: T331
Survey Unit Description: ROOF & WALLS OF TRAILER T331.		

Total Surface Activity Data Sheet

Sample location	RCT ID #	Inst ID #		Survey count time (sec)		LAB (cpm)		Gross Count (gcpm)		Net counts (cpm)		Net Activity (dpm/100cm2)	
		α	β	α	β	α	β	α	β	α	β	α	β
B-1N	1	7	7	90	90	0.7	373	7.3	263	6.6	-110	30.7	-367
C-1N	1	7	7	90	90	4.7	395	6.7	265	2	-130	9.3	-434
C-2N	1	7	7	90	90	6	253	10	306	4	53	18.6	177
D-1N	1	7	7	90	90	8.7	366	6.7	269	-2	-97	-9.3	-324
D-2N	1	7	7	90	90	8.7	360	6	282	-2.7	-78	-12.6	-261
E-1N	1	7	7	90	90	8.7	375	11.3	283	2.6	-92	12.1	-307
F-2N	1	7	7	90	90	6	314	9.3	297	3.3	-17	15.4	-57
G-1N	1	7	7	90	90	9.3	306	4.7	294	-4.6	-12	-21.4	-40
H-1N	1	7	7	90	90	4	402	4	270	0	-132	0	-441
A-1W	1	7	7	90	90	8	398	5.3	285	-2.7	-113	-12.6	-377
B-1W	1	7	7	90	90	6.7	413	2.7	283	-4	-130	-18.6	-434
B-1S	2	8	8	90	90	9.3	240	8.7	289	-0.6	49	-2.9	164
C-1S	2	8	8	90	90	10	291	9.3	291	-0.7	0	-3.3	0
C-2S	2	8	8	90	90	6.7	260	15.3	271	8.6	11	40.9	37
D-2S	2	8	8	90	90	4.7	297	10	293	5.3	-4	25.2	-13
E-1S	2	8	8	90	90	6	276	8	256	2	-20	9.5	-67
F-1S	2	8	8	90	90	5.3	241	4.7	232	-0.6	-9	-2.9	-30
G-2S	2	8	8	90	90	8.7	240	7.3	271	-1.4	31	-6.7	104
H-1S	2	8	8	90	90	11.3	249	6.7	259	-4.3	10	-20.4	34
H-2S	2	8	8	90	90	12.7	244	10.7	260	-2	16	-9.5	54
C-1E	2	8	8	90	90	11.3	238	6	255	-5.3	17	-25.2	57
A-1R	3	9	9	90	90	6	359	16.7	437	10.7	78	52.3	263
B-2R	3	9	9	90	90	4.7	384	32.7	333	28	-51	136.9	-172
C-1R	3	9	9	90	90	2	387	18.7	435	16.7	48	81.6	162
E-2R	3	9	9	90	90	2.7	385	17.3	410	14.6	25	71.4	84
G-2R	3	9	9	90	90	5.3	413	20.7	404	15.4	-9	75.3	-30
H-1R	3	9	9	90	90	4.7	378	21.3	433	16.6	55	81.1	185
H-2R	3	9	9	90	90	4.7	378	20.7	443	16	65	78.2	219
G-1WQC	9	12	12	90	90	2.7	312	6.7	388	4	76	19.6	256
D-1NQC	9	12	12	90	90	2.7	309	4.7	336	2	27	9.8	91
C-1NQC	9	12	12	90	90	0.7	308	6.7	337	6	29	29.3	98
B-1NQC	9	12	12	90	90	1.3	315	6	284	4.7	-31	23.0	-104
-1EQC	9	12	12	90	90	3.3	314	8	299	4.7	-15	23.0	77

Note: QC measurements are to be collected by a different technician than the original survey. Mark the QC location number in the "Sample Location" column. Material background is assumed to be zero unless otherwise noted. "LAB" – local area background.

Final Survey NE Electra
Scan & Investigation Survey Map

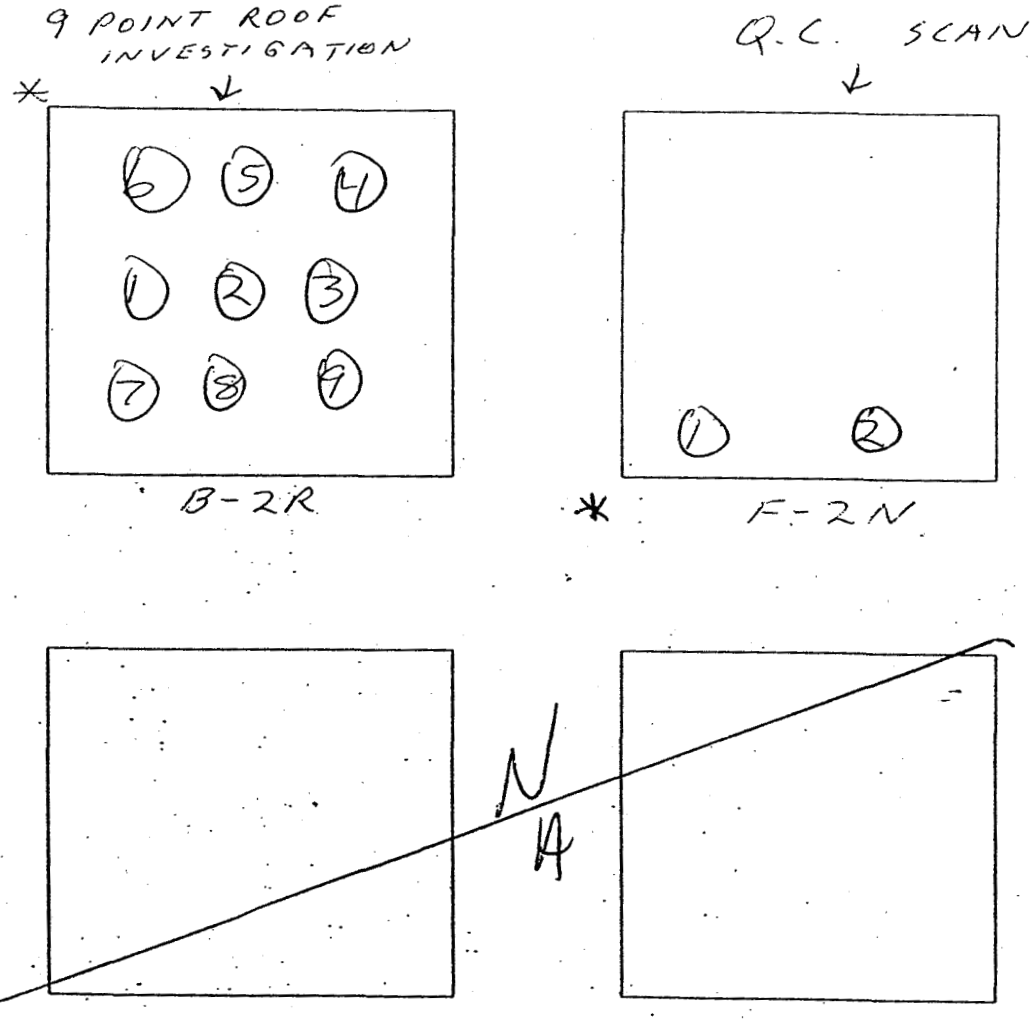
Survey Area:	Survey Unit:	Building:
N/A	EXTERIOR	T 331

Survey Unit Description: 9 POINT ROOF INVESTIGATION AND Q.C. SCANS

RCT Initials/Date: FC 3-7-00 RCT Initials/Date: N/A RCT Initials/Date: N/A

Refer to the Final Survey NE Electra Scan & Investigation Survey Form for instrumentation, surveyor & approval information.

Legend: "R"- Roof, "W" – West Wall, "S" – South Wall, "E" – East Wall, "N" – North Wall "C" –Ceiling, "F" - Floor



*** Designates corner closest to A-1 point of reference**

Results/Comments:

Electra alpha scans were performed at the locations detailed on the survey map(s). All required accessible areas were scanned. All initial scan results were <225 dpm/100cm², unless noted on the survey form.

Electra beta scans were performed in required accessible areas. Initial scan results indicated no detectable activity above background unless noted on the survey form.

Final Survey NE Electra
Scan & Investigation Survey Form

Survey Area:	Survey Unit:	Building:
N/A	EXTERIOR	1331

Survey Unit Description: 9 POINT ROOF INVESTIGATION + Q.C. SCANS

Loc. ID #	*Electra DP-6 Beta*				*Electra DP-6 Alpha*				
	RCT ID #	Inst. ID #	Elevated Audible observed? "Y" or "N"	60-sec PAT (dpm/100cm2)	RCT ID #	Inst. ID #	4-sec Audible observed? "Y" or "N"	30-sec Static (gcpm)	90-sec PAT (dpm/100cm²)
9 POINT ROOF INVESTIGATION									
B-2R1					5	11			91
B-2R2					5	11			87
B-2R3					5	11		N	101
B-2R4			N		5	11		A	52
B-2R5			A		5	11			82
B-2R6					5	11			72
B-2R7					5	11			65
B-2R8					5	11			65
B-2R9					5	11			72
Q.C. SCAN									
F-2N1	8	11	N	N	8	11	Y	8	N
F-2N2	8	11	N	A	8	11	Y	6	A
							N		
							A		

Oasis Device # 2

RFETS; Golden, CO
Apr 24, 2000 13:12:23

Sample ID: 00A1148-022.001 **Type:** Unknown

Batch ID: unknown
Acquisition Start: April 24, 2000 09:31:55
Analysis Date: April 24, 2000 13:12:16
Procedure: polonium210 samples
Device: Oasis:02:02
Analysis Method: ROI Analysis
Spectrum File: 00000302.OXS LiveTime: 10,800.00

Calibrations:
Energy = 1.436E+01 +2.491E+00 * Chn Coeff. of Correlation: -0.998
Calibration Date: April 04, 2000 15:25:18 Std: 2:2 energy calibration
Shape not Calibrated.
Efficiency = 3.436E-01 ± 4.641E-03
Calibration Date: April 05, 2000 09:05:57 Std: AS 4188

External Recovery No Ext.Recovery

Original Sample Amount: 1.000 ± 0.000 samp
Aliquot Amount: 1.000 ± 0.000 samp

ROI DATA

ROI ID #	ASSOCIATED NUCLIDE	EXTENTS START	EXTENTS END	PK EN (keV)	FWHM (keV)
1 Po218	Po218	5552.6	6077.8	5814.5	1.2
2 Po214	Po214	7420.0	7770.1	7593.4	1.2
3 Po212		8521.5	8850.6	8687.1	1.2
4 Po210	Po210	2263.7	5402.1	3831.3	2.5

ROI ANALYSIS RESULTS

ROI ID	NET COUNTS	BKG/INTERF	CPM	ROI TYPE
Po218	-1.5 ± 0.6	1.50	-8.33E-03 ± 3.40E-03	Unknown
Po214	-0.8 ± 0.4	0.75	-4.17E-03 ± 2.41E-03	Unknown
Po212	0.0 ± 0.0	0.00	0.00E+00 ± 0.00E+00	Unknown
Po210	8.0 ± 4.8	12.00	0.044 ± 0.027	Unknown

NUCLIDE ANALYSIS RESULTS

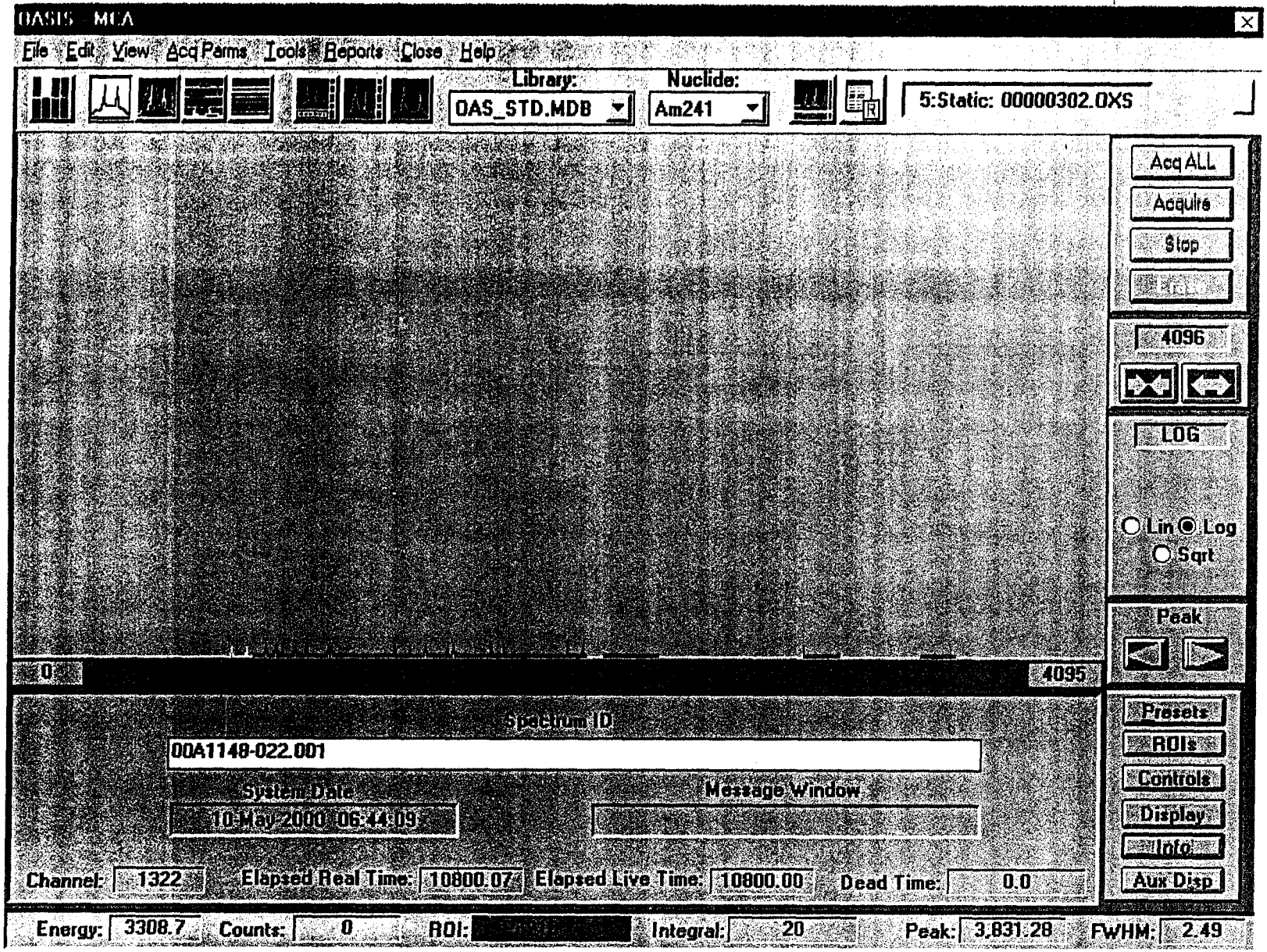
ROI ID	ASSOC NUC	EMM. PROB	ACTIVITY (dpm/samp)	MDA (dpm)
Po218	Po218	1.000	-2.43E-02 ± 9.91E-03	1.17E-01
Po214	Po214	1.000	-1.21E-02 ± 7.00E-03	9.53E-02
Po212		1.000	0.00E+00 ± 0.00E+00	4.38E-02
Po210	Po210	1.000	0.129 ± 0.078	2.50E-01

Activity reported as of April 24, 2000 09:31:55

ANALYSIS REVIEWED BY: [signature]

APPROVED BY: [signature] 5/9/00

113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Peak
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4095
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System Date
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Message Window
Presets
ROIs
Controls
Display
Info
Aux Disp
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Elapsed Live Time: 10800.00
Dead Time: 0.0
Energy: 3308.7
Counts: 0
ROI:
Integral: 20
Peak: 3,831.28
FWHM: 2.49

Oasis Device # 2

RFETS; Golden, CO
Apr 24, 2000 13:12:07

Sample ID: **00A1148-023.001** **Type:** **Unknown**

Batch ID: unknown
Acquisition Start: April 24, 2000 09:31:57
Analysis Date: April 24, 2000 13:11:59
Procedure: polonium210 samples
Device: Oasis:02:03
Analysis Method: ROI Analysis
Spectrum File: 00000303.OXS LiveTime: 10,800.00

Calibrations:
Energy = 1.604E+02 +2.389E+00 * Chn Coeff. of Correlation: -0.998
Calibration Date: April 04, 2000 15:34:53 Std: 2:3 energy cal
Shape not Calibrated.
Efficiency = 3.357E-01 ± 4.547E-03
Calibration Date: April 05, 2000 09:20:34 Std: AS 4188

External Recovery No Ext.Recovery

Original Sample Amount:
1.000 ± 0.000 samp
Aliquot Amount: 1.000 ± 0.000 samp

ROI DATA

ROI ID #	ASSOCIATED NUCLIDE	EXTENTS START	EXTENTS END	PK EN (keV)	FWHM (keV)
1 Po218	Po218	5552.6	6077.8	5815.3	2.4
2 Po214	Po214	7420.0	7770.1	7595.1	2.4
3 Po212		8521.5	8850.6	8686.9	1.2
4 Po210	Po210	2263.7	5402.1	3832.4	2.4

ROI ANALYSIS RESULTS

ROI ID	NET COUNTS	BKG/INTERF	CPM	ROI TYPE
Po218	1.2 ± 1.4	0.83	6.50E-03 ± 7.97E-03	Unknown
Po214	0.9 ± 1.0	0.14	4.79E-03 ± 5.58E-03	Unknown
Po212	-0.3 ± 0.1	0.28	-1.54E-03 ± 7.69E-04	Unknown
Po210	57.8 ± 8.5	14.18	0.321 ± 0.047	Unknown

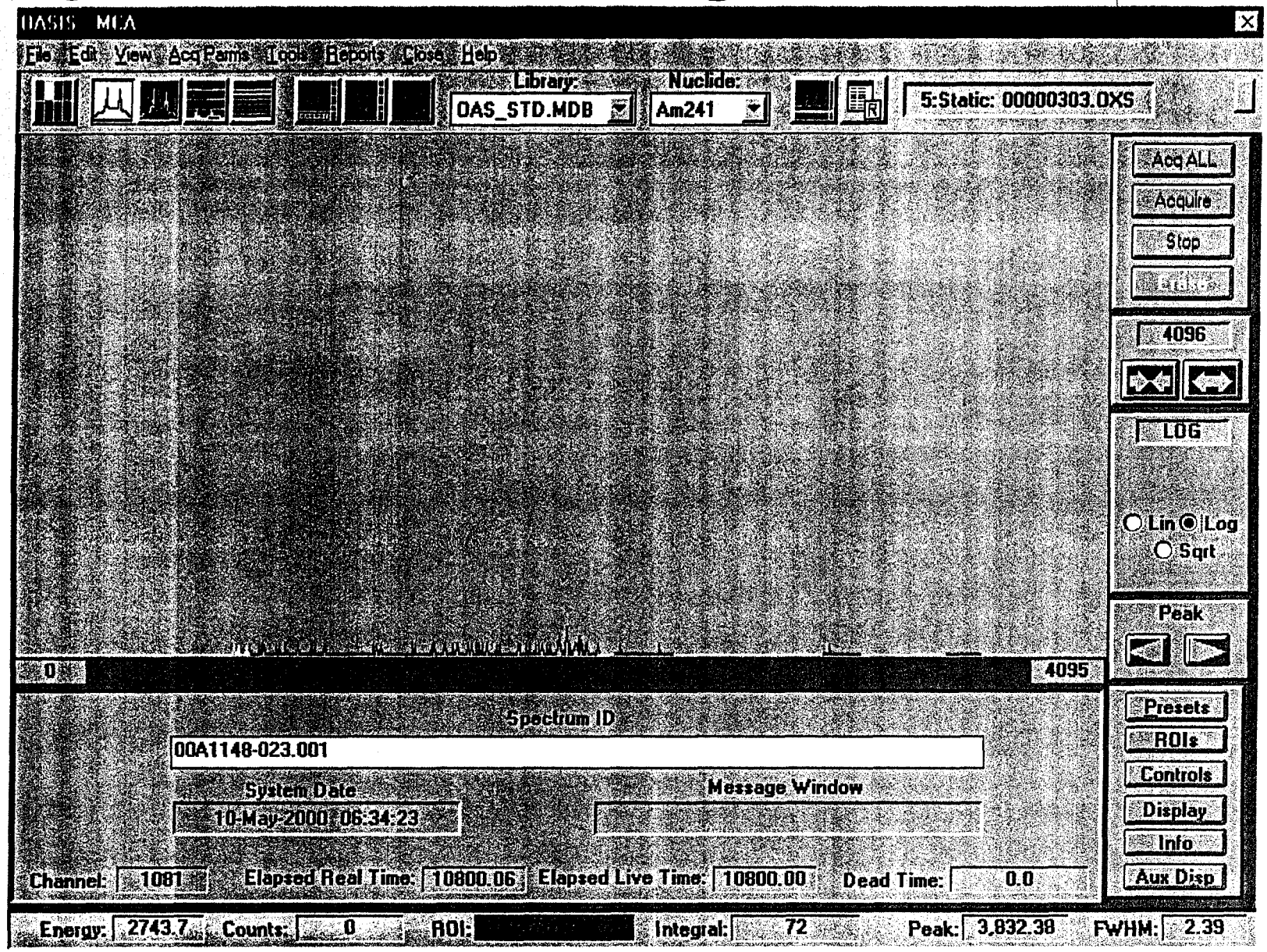
NUCLIDE ANALYSIS RESULTS

ROI ID	ASSOC NUC	EMM. PROB	ACTIVITY (dpm/samp)	MDA (dpm)
Po218	Po218	1.000	0.019 ± 0.024	9.61E-02
Po214	Po214	1.000	0.014 ± 0.017	6.57E-02
Po212		1.000	-4.58E-03 ± 2.29E-03	7.44E-02
Po210	Po210	1.000	0.957 ± 0.142	2.57E-01

Activity reported as of April 24, 2000 09:31:57

ANALYSIS REVIEWED BY: [signature]

APPROVED BY: C J Bruneau 5/9/00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Am241
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Lin Log
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Peak
0
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Spectrum ID
00A1148-023.001
System Date
10-May-2000 06:34:23
Message Window
Presets
ROIs
Controls
Display
Info
Aux Disp
Channel: 1081
Elapsed Real Time: 10800.06
Elapsed Live Time: 10800.00
Dead Time: 0.0
Energy: 2743.7
Counts: 0
ROI:
Integral: 72
Peak: 3,832.38
FWHM: 2.39

mple ID: 00A1148-024.001 **Type:** Unknown

Batch ID: unknowns
Acquisition Start: May 03, 2000 08:48:51
Analysis Date: May 03, 2000 16:49:15
Procedure: Po210 count
Device: Oasis:01:03
Analysis Method: ROI Analysis
Spectrum File: 00000528.OXS LiveTime: 28,800.00

Calibrations:
Energy = 6.596E+01 +2.779E+00 * Chn Coeff. of Correlation: -0.998
Calibration Date: April 24, 2000 13:03:27 Std: 1:3 Energy Cal
Shape not Calibrated.
Efficiency = 3.120E-01 ± 4.098E-03
Calibration Date: April 24, 2000 10:05:48 Std: TS4189

External Recovery No Ext.Recovery

Air Filter Analysis Parameters:
Sample Type: Unknown
Air Filter Time on: May 03, 2000 08:47:18
Air Filter Time off: May 03, 2000 08:47:18
Total Collect Time: 0.000 hours
Air Volume: 1.000 ± 0.000 samp

ROI DATA

ROI ID	ASSOCIATED NUCLIDE	EXTENTS START	EXTENTS END	PK EN (keV)	FWHM (keV)
1 Po218	Po218	5550.0	6104.5	5827.5	4.2
2 Po214	Po214	6588.5	7874.7	7231.0	2.8
3 Po212	Po212	8393.8	8808.6	8745.7	3.2
4 Po210	Po210	2180.3	5343.3	5163.2	3.1

ROI ANALYSIS RESULTS

ROI ID	NET COUNTS	BKG/INTERF	CPM	ROI TYPE
Po218	12.7 ± 3.9	1.33	0.026 ± 8.04E-03	Unknown
Po214	0.3 ± 2.2	2.67	6.94E-04 ± 4.55E-03	Unknown
Po212	18.0 ± 4.2	0.00	0.038 ± 8.84E-03	Unknown
Po210	489.0 ± 22.8	18.00	1.019 ± 0.047	Unknown

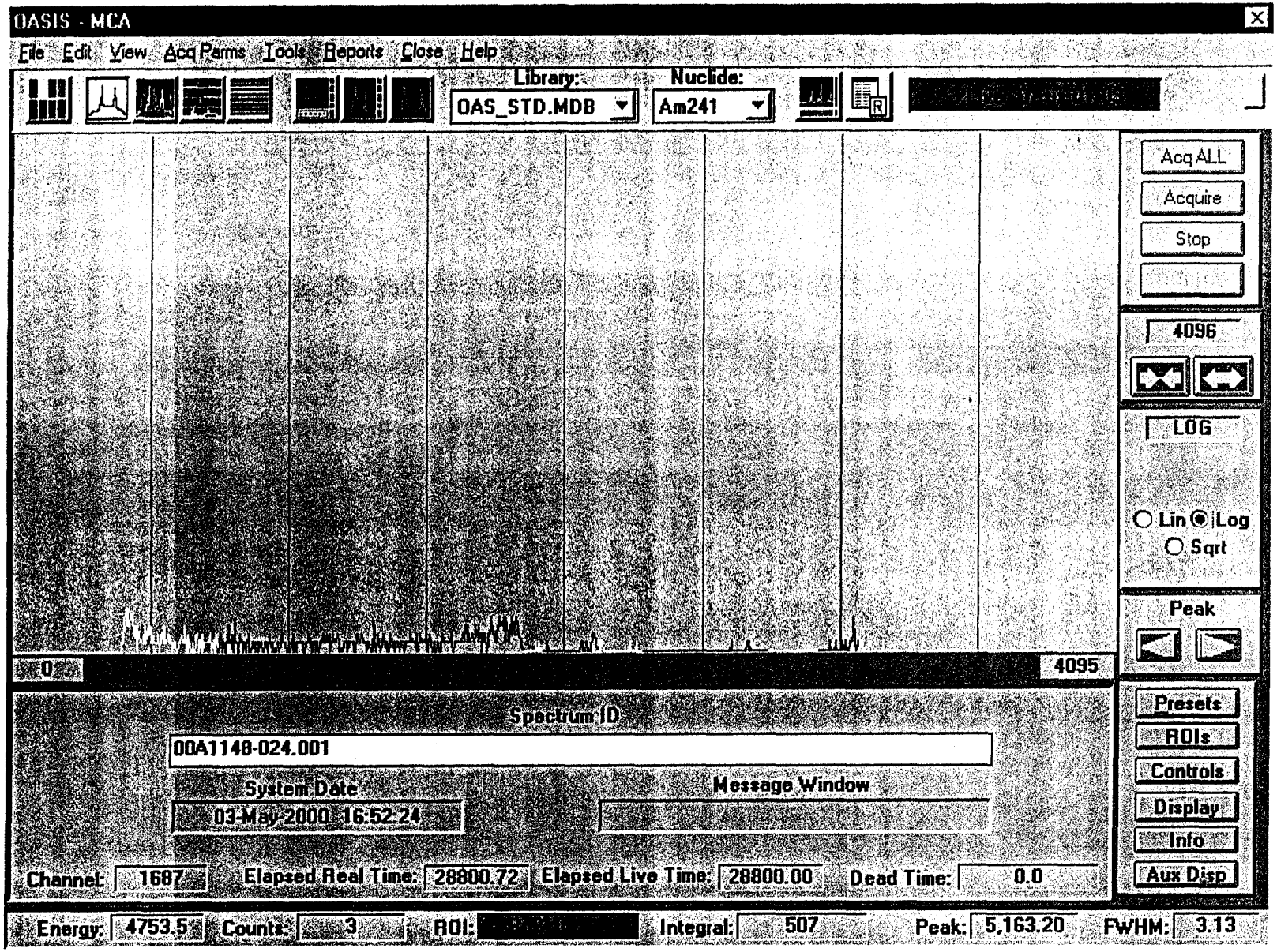
NUCLIDE ANALYSIS RESULTS

ROI ID	ASSOC NUC	EMM. PROB	ACTIVITY (dpm/samp)	MDA (dpm/samp)
Po218	Po218	1.000	0.085 ± 0.026	5.08E-02
Po214	Po214	1.000	2.23E-03 ± 0.015	6.44E-02
Po212	Po212	1.000	0.120 ± 0.028	1.81E-02
Po210	Po210	1.000	3.265 ± 0.158	1.38E-01

Activity reported as of May 03, 2000 08:48:51

ANALYSIS REVIEWED BY: Steven P Ewell

PROVED BY: C J Bianconi 5/9/00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Controls
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Info
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Dead Time: 0.0
Energy: 4753.5
Counts: 3
ROI:
Integral: 507
Peak: 5,163.20
FWHM: 3.13

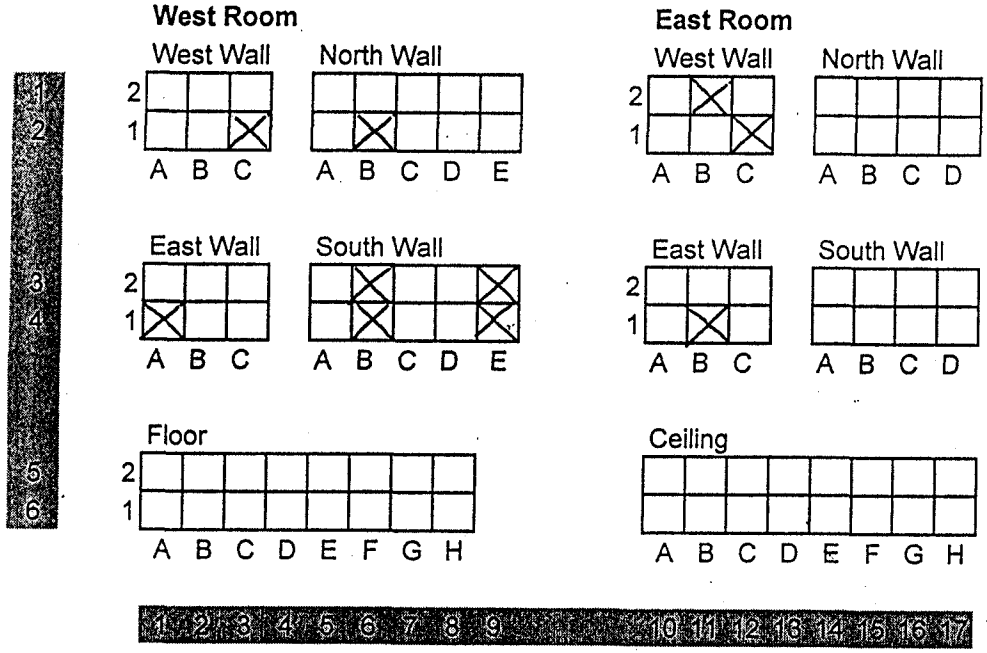
E-2

T331 – Radiological Survey Data for Interior Survey Unit

- Map of Locations
  - Scans
  - Surveys
- Removable and Total Survey Results - Detail

SCAN LOCATIONS:

T331 Interior

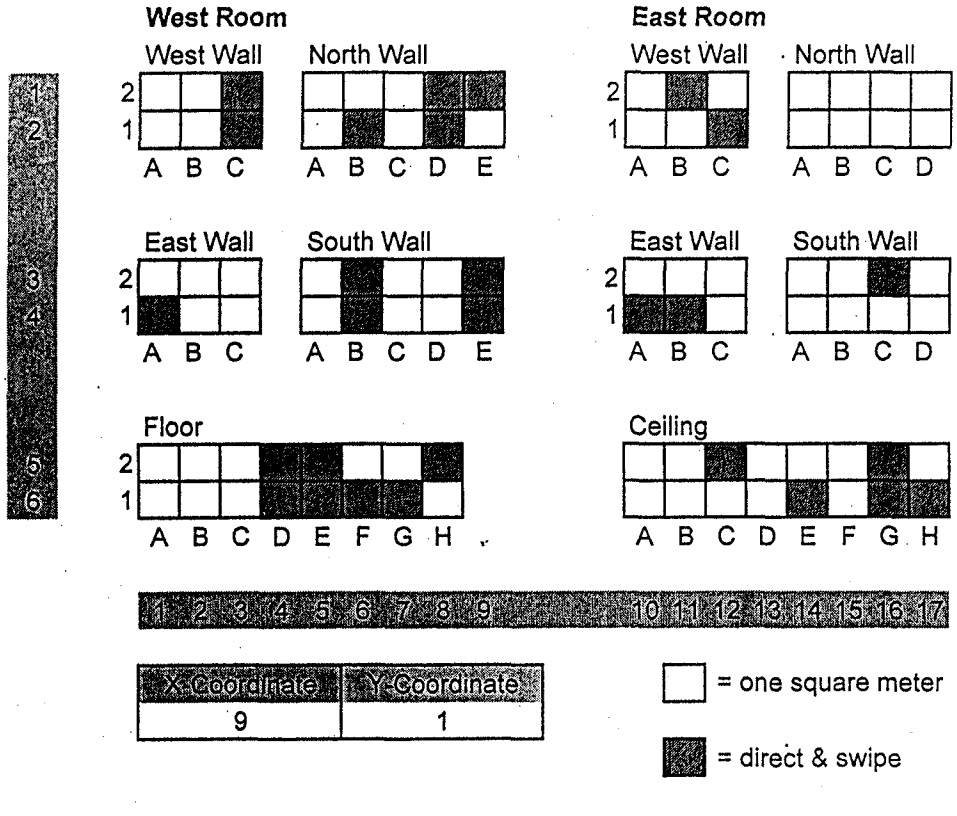


NOTE: SCANS DONE ON WALLS DUE TO FLOOR BASICALLY BEING NON-EXISTENT IN THIS TRAILER

3 of 10

2 /10

T331 Interior



X-Coordinate	Y-Coordinate
9	1

Total Surface Area = 92 m^2

10% Scan Surface Area = 9.2 m^2

	X	Y		X	Y		X	Y
1	9	1	11	8	5	21	12	2
2	4	6	12	11	1	22	1	4
3	6	6	13	3	1	23	8	2
4	12	5	14	5	5	24	16	3
5	5	6	15	6	3	25	4	5
6	10	4	16	17	6	26	7	6
7	11	4	17	8	1	27	14	6
8	6	2	18	9	3	28	16	5
9	6	4	19	9	4			
10	16	6	20	3	2			

Survey Area: NA	Survey Unit: Interior	Building: T331
Survey Unit Description: Walls, Ceiling, Floor		

Removable Contamination Data Sheet

Sample Location	RCT ID #	Inst ID #		Gross Counts (gcpm)		Net Counts (cpm)		Removable Activity (dpm/100cm2)	
		α	β	α	β	α	β	α	β
MAIN AREA									
D-2F	3	1	3	1.0	42	0.5	2.0	1.5	8
D-1F	3	2	4	0.5	36.5	0.1	-3.8	0.3	~~-11.5~~ -15.2
E-1F	3	1	3	0.5	34.5	0.0	-5.5	0.0	-22
E-2F	3	2	4	1.0	41	0.6	0.7	1.8	2.8
F-1F	3	1	3	0.0	37	-0.5	-3.0	-1.5	~~-9.4~~ -12
G-1F	3	2	4	1.0	37.5	0.6	-2.8	1.8	-11.2
H-2F	3	1	3	0.5	35.5	0.0	-4.5	0.0	-18
G-2C	3	2	4	0.0	45.5	-0.4	5.2	-1.2	20.8
E-1C	3	1	3	0.0	45	-0.5	5	-1.5	20
G-1C	3	2	4	1.5	32	1.1	-8.3	3.3	-33.2
G-2C	3	1	3	0.0	37	-0.5	-3.0	-1.5	-12
H-1C	3	2	4	1.0	38	0.6	-2.3	1.8	-9.2
WEST ROOM									
A-1W	3	1	3	0.5	38	0.0	-2	0.0	-8
C-2W	3	2	4	1.0	36.5	0.6	-3.8	1.8	-15.2
B-1N	3	1	3	0.5	35	0.0	-5	0.0	-20
D-1N	3	2	4	1.5	39.5	1.1	-0.8	~~3.3~~	~~-8.2~~ -3.2
D-2N	3	1	3	0.5	37	0.0	-3	0.0	-12
E-2N	3	2	4	0.0	39	-0.4	-1.3	-1.2	~~-3.9~~ -5.2
A-1E	3	1	3	2.0	34	1.5	-6	4.5	-24
B-1S	3	2	4	0.5	39	0.1	-1.3	0.3	~~-3.9~~ -5.2
B-2S	3	1	3	0.5	30	0.0	-10	0.0	-40
E-1S	3	2	4	0.0	47	-0.4	6.7	-1.2	26.8
E-2S	3	1	3	1.0	51	0.5	11	1.5	44
EAST ROOM									
B-2W	3	2	4	2.0	45.5	~~1.6~~	5.2	4.8	20.8
C-1W	3	1	3	0.5	50.0	~~0.5~~ 0.0	10	0.0	40
A-1E	3	2	4	1.0	40.5	0.6	0.2	1.8	0.8
B-1E	3	1	3	1.5	42	1.0	2.0	3.0	8
C-2S	3	2	4	0.5	47.5	0.1	7.2	0.3	28.8

N

A

172

Survey Area: NA	Survey Unit: INTERIOR	Building: T331
Survey Unit Description: WALLS, CEILING, FLOOR		

Total Surface Activity Data Sheet

Sample location	RCT ID #	Inst ID #		Survey count time (sec)		LAB (cpm)		Gross Count (gcpm)		Net counts (cpm)		Net Activity (dpm/100cm2)	
		α	β	α	β	α	β	α	β	α	β	α	β
MAIN AREA				~~90~~	~~90~~								
D-1F	1	8	8	90	90	6.7	409	5.3	629	-1.4	220	-6.8	741
D-2F	1	8	8	90	90	2.0	431	10.0	413	8	-18	39.1	-61
E-1F	1	8	8	90	90	3.3	426	12.7	602	9.4	176	45.9	593
E-2F	1	8	8	90	90	2.0	410	6.0	477	4	67	19.6	226
E-1C	1	8	8	90	90	2.3	452	3.3	391	-2	-61	-9.8	-205
C-2C	1	8	8	90	90	6.0	422	12.0	396	6	-26	29.3	-88
F-1F	1	8	8	90	90	2.7	436	7.3	438	4.6	2	22.5	7
G-1F	1	8	8	90	90	4.7	438	3.3	435	-1.4	-3	-6.8	-10
G-1C	1	8	8	90	90	2.0	405	2.0	361	0	-44	0	-148
G-2C	1	8	8	90	90	2.7	413	6.7	397	4	-16	19.6	-54
H-2F	1	8	8	90	90	2.7	448	7.3	406	4.6	-42	22.5	-141
H-1C	1	8	8	90	90	2.7	421	0.7	381	-2	-40	-9.8	-135
WEST ROOM				~~90~~	~~90~~								
C-1W	2	7	7	90	90	4.0	381	3.3	312	-0.7	-69	-3.2	~~-228~~
C-2W	2	7	7	90	90	3.3	271	6.7	261	3.4	-10	15.6	-32
B-1N	2	7	7	90	90	2.7	384	8.7	311	6	-73	27.5	-235
D-1N	2	7	7	90	90	2.7	354	6.7	302	4	-52	18.3	-167
D-2N	2	7	7	90	90	2.7	267	12.7	285	10	18	45.9	58
E-2N	2	7	7	90	90	4.0	264	3.3	278	-0.7	14	-3.2	45
A-1E	2	7	7	90	90	5.3	347	8.7	294	3.4	-53	15.6	-171
B-1S	2	7	7	90	90	3.3	383	4.7	281	1.4	-102	6.4	-328
B-2S	2	7	7	90	90	0.7	393	4.0	287	3.3	-106	15.1	-341
E-1S	2	7	7	90	90	0.7	371	9.3	320	8.6	-51	39.4	-164
E-2S	2	7	7	90	90	4.7	373	5.3	279	0.6	-94	2.8	-303
				90	90		NA						
				90	90								
				90	90								
D-1F QC	8	9	9	90	90	4.0	406	6.0	566	2	160	8.9	527
E-1F QC	8	9	9	90	90	2.7	409	12.0	494	9.3	85	41.6	280
F-1F QC	8	9	9	90	90	3.3	436	10.0	434	6.7	-2	30.0	-7
QC				~~90~~	~~90~~		NA						
QC				~~90~~	~~90~~		NA						

Note: QC measurements are to be collected by a different technician than the original survey. Mark the QC location number in the "Sample Location" column. Material background is assumed to be zero unless otherwise noted. "LAB" ~ local area background.

173

Survey Area: NA	Survey Unit: INTERIOR	Building: T331
Survey Unit Description: WALLS, CEILING, FLOOR		

Total Surface Activity Data Sheet

Sample location	RCT ID #	Inst ID #		Survey count time (sec)		LAB (cpm)		Gross Count (gcpm)		Net counts (cpm)		Net Activity (dpm/100cm2)	
		α	β	α	β	α	β	α	β	α	β	α	β
EAST	ROOM		—	~~90~~	~~90~~								
B-2W	2	7	7	90	90								
C-1W	2	7	7	90	90	2.0	330	13.3	271	11.3	-59	57.8	-190
A-1E	2	7	7	90	90	2.0	345	7.3	273	5.3	-72	24.3	-232
B-1E	2	7	7	90	90	2.0	334	5.3	293	3.3	-41	15.1	-132
C-2S	2	7	7	90	90	2.0	361	5.3	306	3.3	-55	15.1	-177
				90	90	2.0	339	4.0	266	2	-73	9.2	-235
				90	90								
				90	90								
				90	90								
				90	90								
				90	90								
				90	90								
				90	90								
				90	90								
				90	90								
				90	90		N/A						
				90	90								
				90	90								
				90	90								
				90	90								
				90	90								
				90	90								
				90	90								
				90	90								
				90	90								
				90	90								
				90	90								
C-1W QC	8	9	9	90	90								
B-2W QC	8	9	9	90	90	2.7	402	11.3	290	8.6	-112	38.5	-369
___QC				90	90	1.3	309	6.0	312	4.7	3	21.0	10
___QC				90	90		N/A						
___QC				90	90								

Note: QC measurements are to be collected by a different technician than the original survey. Mark the QC location number in the "Sample Location" column. Material background is assumed to be zero unless otherwise noted. "LAB" ~ local area background.

E-3

T331 – Asbestos Inspector's Report

T331

ASBESTOS INSPECTOR'S REPORT

I, the undersigned Certified Asbestos Inspector, certification # 1387 in the state of Colorado, attest to the asbestos inspection and sampling results as described below, for the following facility (at RFETS): Trailer 331.

General Facility Location: North Buffer Zone by the current firing range.

INSPECTION RESULTS
No suspect asbestos containing materials were identified in Trailer 331 and no samples were collected. Fiberglass insulation was found throughout the walls.

SAMPLE RESULTS
None required; none taken.

Andre Gonzalez		7/12/00
INSPECTOR'S NAME	SIGNATURE	DATE

E-4

Type 1 Facility Checklist

Type 1 Facility Checklist

TYPE 1 FACILITY BUILDING T-331

CURRENT LANDLORD: RFCSS

DATE OF COMPLETION: 02/29/00

ITEM	YES	NO
Does the facility contain radiological postings?		X
Does the facility contain chemical postings?		X
Are there any installed hazards?		X
Is there any information that indicates this facility was Impacted by DOE chemical and/or radiological operations?		X
Are there RCRA units within the facility		X
Is there a history of the building available?	X	
Is there any equipment/furniture left in the facility?		X
Is there a future mission identified for the facility?		X
Will the facility be left unsecured after it is vacated?		X

If any answer to any of the above questions is "Yes", complete the following questions and complete the "graded" PEP in accordance with Chapter 2.

Note: An answer of "Yes" to any question, specifically one dealing with hazards, ***may*** *indicate the facility is not a Type 1 Facility. Check with the D&D Programs office.*

If the answer to all question is "No" complete the "graded" PEP in accordance with Chapter 2.

1. List the Radiological Hazards, location, and quantity:

   Based on the historical data found and interviews taken there are no hazards in this trailer.

2. List the Chemical Hazards, location, and quantity:

   None. Based on historical data and interviews taken there are no chemical hazards in this trailer.

3. List the Physical Hazards:

   NONE

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F-1

T750E – Radiological Survey Data for Exterior Survey Unit

- Summary of Radiological Survey/Sample Results
- Map of Locations
  - Scans
  - Surveys
- Removable and Total Survey Results – Detail
- Laboratory Alpha Spec (Sample) Results – Detail

Radiological Survey/Sample Results for T750E

Total Surface Activity Measurements dpm/100 cm^2

	Alpha	Beta
Interior	# Required	# Obtained
	28	28
MIN	-5.8	-205
MAX	26.8	633
MEAN	6.4	168.7
STD DEV	6.7	226.0
Exterior	# Required	# Obtained
	28	28
MIN	-19.0	-454
MAX	238.0	306
MEAN	69.4	-27.8
STD DEV	87.4	143.8
$DCGL_W$	100	5000

Removable Activity Measurements dpm/100 cm^2

	Alpha	Beta
Interior	# Required	# Obtained
	28	28
MIN	-1.5	-30
MAX	3.3	44
MEAN	0.0	-1.4
STD DEV	1.4	17.9
Exterior	# Required	# Obtained
	28	28
MIN	-1.5	-34
MAX	4.8	36
MEAN	1.0	-7.7
STD DEV	1.9	17.4
$DCGL_W$	20	1000

Media Sample Activity

# Required	# Obtained
2	2

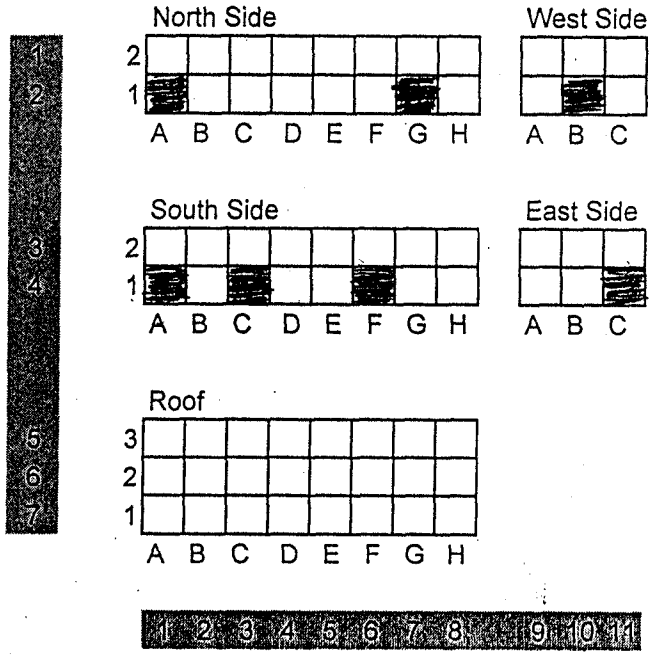
Contaminant	Y/N	Det. Sens. dpm/100 cm^2
U present	N	79
Pu present	N	79

Total Po-210 Results dpm/100 cm^2

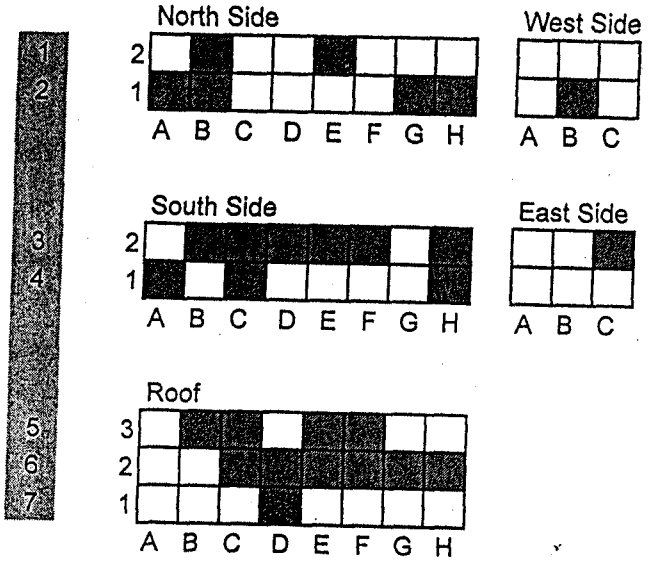
MIN	157.1
MAX	209.6
MEAN	183.4
STD DEV	9.3

Scan Locations:

T750E Exterior



T750E Exterior



X-Coordinate	Y-Coordinate
5	2

= one square meter

= direct & swipe

Total Surface Area = 68 m^2

10% Scan Surface Area = 6.8 m^2

	X	Y		X	Y		X	Y
1	3	5	11	1	4	21	7	2
2	5	3	12	2	1	22	8	4
3	5	5	13	3	3	23	4	6
4	8	3	14	2	2	24	10	2
5	5	1	15	8	6	25	4	3
6	6	3	16	11	3	26	4	7
7	3	4	17	8	2	27	1	2
8	6	6	18	2	5	28	2	3
9	6	5	19	7	6			
10	5	6	20	3	6			

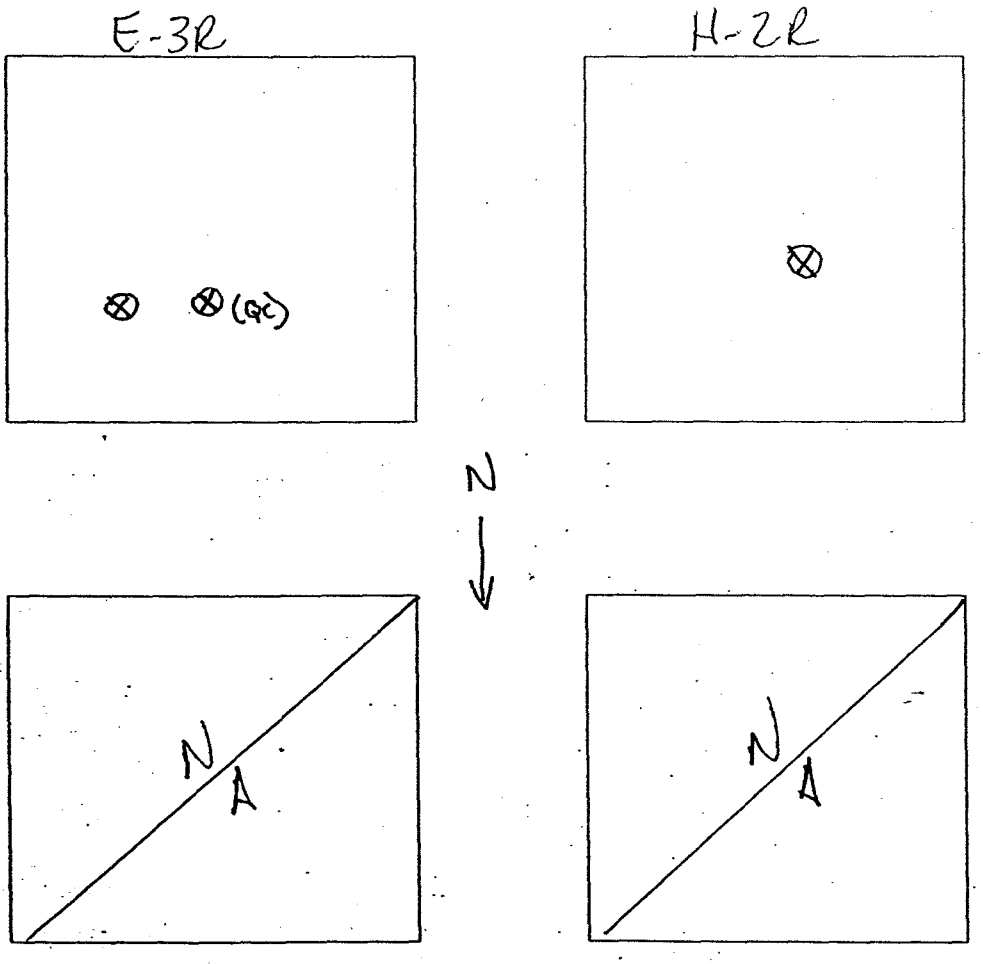
182

Final Survey NE Electra
Scan & Investigation Survey Map

Survey Area: N/A	Survey Unit: EXTERIOR	Building: T750E
Survey Unit Description: Roof Sample Locations		
RCT Initials/Date: [illegible] 3/28/00	RCT Initials/Date: NA	RCT Initials/Date: NA

Refer to the Final Survey NE Electra Scan & Investigation Survey Form for instrumentation, surveyor & approval information.

Legend: "R"- Roof, "W" – West Wall, "S" – South Wall, "E" – East Wall, "N" – North Wall "C" –Ceiling, "F" - Floor



⊗ SAMPLE CUT OUT

*** Designates corner closest to A-1 point of reference**

Results/Comments:
Electra alpha scans were performed at the locations detailed on the survey map(s). All required accessible areas were scanned. All initial scan results were <225 dpm/100cm², unless noted on the survey form.
Electra beta scans were performed in required accessible areas. Initial scan results indicated no detectable activity above background unless noted on the survey form.

183

Survey Area: NA	Survey Unit: EXTERIOR	Building: T750E
Survey Unit Description ROOF SAMPLE LOCATIONS		

Removable Contamination Data Sheet

Sample location	RCT ID #	Inst ID #		Gross Counts (gcpm)		Net Counts (cpm)		Removeable Activity (dpm/100cm2)	
		α	β	α	β	α	β	α	β
PRE						0	0	0.0	0
E-3R	1	1	2	1	40.5	0.5	2.4	1.5	10
POST						0	0	0.0	0
E-3R	1	3	4	0	44	-0.6	5.2	-1.8	21
PRE						0	0	0.0	0
E-3RQC	1	1	2	0	46.5	-0.5	8.4	-1.5	34
POST						0	0	0.0	0
E-3RQC	1	3	4	0	35	-0.6	-3.8	-1.8	-15
PRE						0	0	0.0	0
H-2R	1	1	2	1	38	0.5	-0.1	1.5	0
POST						0	0	0.0	0
H-2R	1	3	4	1.5	54	0.9	15.2	2.7	61
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0

N/A

184

Survey Area: NA	**Survey Unit:** EXTERIOR	**Building:** T750E
Survey Unit Description ROOF SAMPLE LOCATIONS		

Total Surface Activity Data Sheet

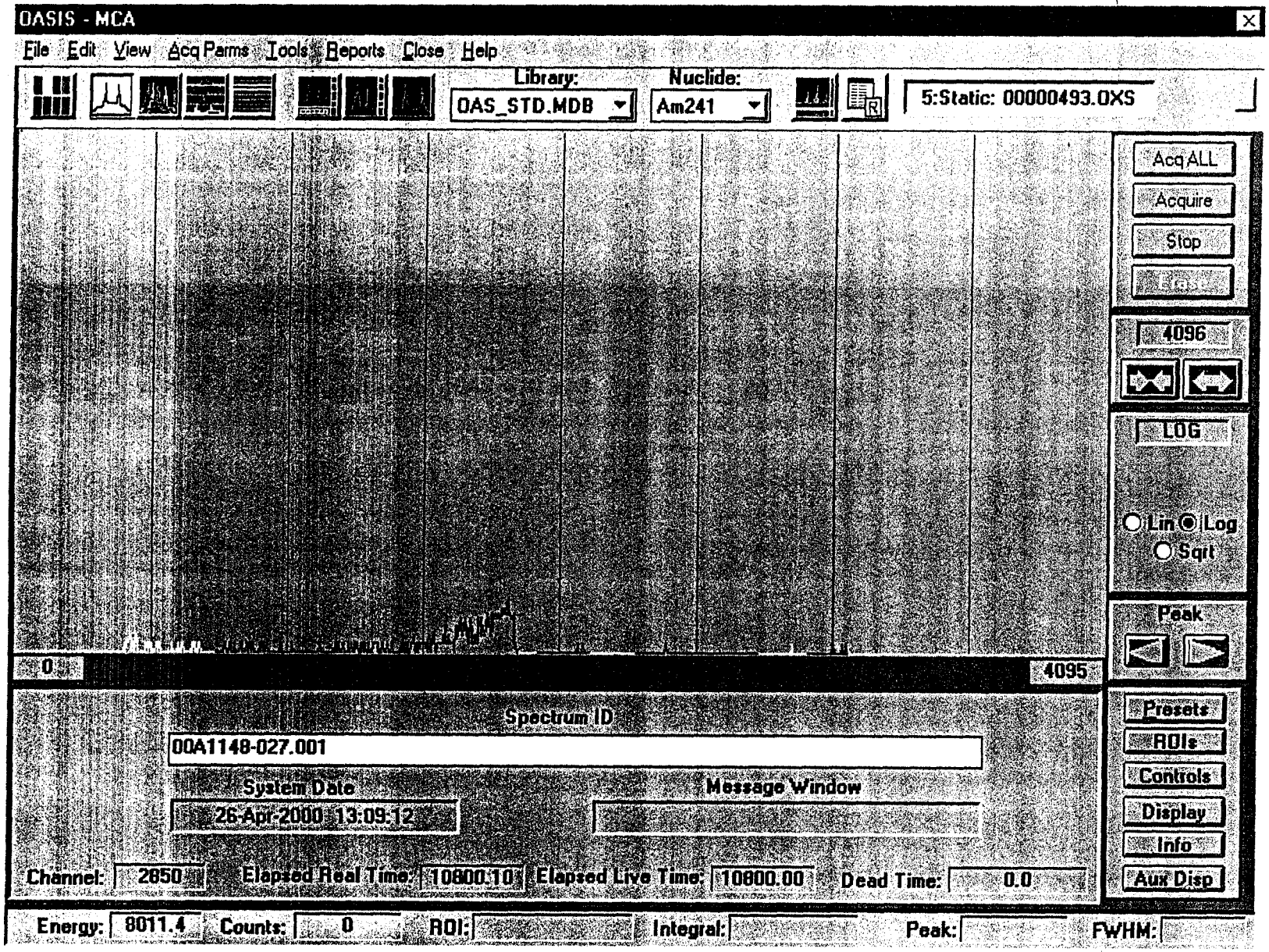
Sample location	RCT ID #	Inst ID #		Survey count time (sec)		Gross Count (gcpm)		LAB (cpm)		Net counts (cpm)		Net Activity (dpm/100cm2)	
		α	β	α	β	α	β	α	β	α	β	α	β
PRE				90	90					0.0	0	0.0	0
E-3R	1	7	7	90	90	51.3	415	1.3	371	50.0	44	239.8	147
POST				90	90					0.0	0	0.0	0
E-3R	1	7	7	90	90	38.0	429	8.0	375	30.0	54	143.9	181
PRE				90	90					0.0	0	0.0	0
E-3RQC	2	8	8	90	90	39.3	393	2.7	404	36.6	-11	178.9	-37
POST				90	90					0.0	0	0.0	0
E-3RQC	2	8	8	90	90	31.3	429	4.7	419	26.6	10	130.0	34
PRE				90	90					0.0	0	0.0	0
H-2R	1	7	7	90	90	38.0	435	6.0	367	32.0	68	153.5	228
POST				90	90					0.0	0	0.0	0
H-2R	1	7	7	90	90	24.7	416	5.3	347	19.4	69	93.0	231
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
QC				90	90					0.0	0	0.0	0
QC				90	90					0.0	0	0.0	0
QC				90	90					0.0	0	0.0	0
QC				90	90					0.0	0	0.0	0
QC				90	90					0.0	0	0.0	0

Note: QC measurements are to be collected by a different technician than the original survey. Mark the QC location number in the "Sample Location" column. Material background is assumed to be zero unless otherwise noted. "LAB" ~ local area background.

Survey Area: N/A	Survey Unit: EXTERIOR	Building: T-750E
Survey Unit Description: ROOF + WALLS OF TRAILER T-750E.		

Removable Contamination Data Sheet

Sample Location	RCT ID #	Inst ID #		Gross Counts (gcpm)		Net Counts (cpm)		Removable Activity (dpm/100cm2)	
		α	β	α	β	α	β	α	β
A-1N	85	1	2	0.5	32	0	-8	0	-32
B-1N	85	3	4	0.5	41.5	0.1	-1	0.3	-4
B-2N	85	1	2	0	35.5	-0.5	-4.5	-1.5	-18
E-2N	85	3	4	1	43	0.6	0.5	1.8	2
G-1N	85	1	2	2	42.5	1.5	2.5	4.5	10
H-1N	85	3	4	0	43	-0.4	0.5	-1.2	2
B-1W	85	1	2	1	34	0.5	-6	1.5	-24
A-1S	85	3	4	0.5	41	0.1	-1.5	0.3	-6
B-2S	85	1	2	1.5	43.5	1	3.5	3	14
C-1S	85	3	4	1.5	38	1.1	-4.5	3.3	-18
C-2S	85	1	2	0.5	40.5	0	0.5	0	2
D-2S	85	3	4	0	36.5	-0.4	-6	-1.2	-24
E-2S	85	1	2	1	45.5	0.5	5.5	1.5	22
F-2S	85	3	4	0	45.5	-0.4	3E-3	-1.2	12
A-1S	85	1	2	0.5	35	0	-5	0	-20
A-2S	85	3	4	1.5	34	1.1	-8.5	3.3	-34
C-2E	85	1	2	0.5	40	0	0	0	0
B-3R	85	3	4	0	36.5	-0.4	-6	-1.2	-24
C-2R	85	1	2	1	41	0.5	1	1.5	4
C-3R	85	3	4	0	39	-0.4	-3.5	-1.2	-14
D-1R	85	1	2	0.5	39.5	0	-0.5	0	-2
D-2R	85	3	4	0.5	39	0.1	-3.5	0.3	-14
E-2R	85	1	2	1.5	49	1	9	3	36
E-3R	85	3	4	1	35.5	0.6	-7	1.8	-28
F-2R	85	1	2	2	31.5	1.5	-8.5	4.5	-34
F-3R	85	3	4	2	40	1.6	-2.5	4.8	-10
G-2R	85	1	2	0.5	39.5	0	-0.5	0	-2
H-2R	85	3	4	0.5	39.5	0.1	-3	0.3	-12
	0a 3.400								
						N/A			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OAS_STD.MDB
Nuclide:
Am241
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Acq ALL
Acquire
Stop
4096
LOG
Lin Log
Sqrt
Peak
0
4095
Spectrum ID
00A1148-027.001
System Date
26-Apr-2000 13:09:12
Message Window
Presets
ROIs
Controls
Display
Info
Aux Disp
Channel: 2850
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Elapsed Live Time: 10800.00
Dead Time: 0.0
Energy: 8011.4
Counts: 0
ROI:
Integral:
Peak:
FWHM:

Survey Area: N/A	Survey Unit: EXTERIOR	Building: T903A
Survey Unit Description: ROOF & WALLS OF TRAILER T903A.		

Removable Contamination Data Sheet

Sample Location	RCT ID #	Inst ID #		Gross Counts (gcpm)		Net Counts (cpm)		Removable Activity (dpm/100cm2)	
		α	β	α	β	α	β	α	β
E-1N	S	1	4	0	36.5	-0.5	-5.4	-1.5	-21.6
G-2N	S	2	5	1.5	44.5	0.6 LLD	5.7	1.8	22.8
J-2N	S	3	6	0	42	-0.7 -0.5 LLD	3.5 2.1	-2.1	8.4
K-1N	S	1	4	0.5	45.5	0	3.6	0	14.4
L-1N	S	2	5	1	42	0.1	3.2	0.3	12.8
L-2N	S	3	6	0.5	35.5	-0.2	-4.4	-0.6	-17.6
N-2N	S	1	4	1.5	39.5	1.0	-2.4	3	9.6
N-3N	S	2	5	3.0	41.5	2.1	2.7	6.4	10.8
C-3S	S	3	6	0	40	-0.7	0.1	-2.1	0.4
E-3S	S	1	4	0	41.5	-0.5	-0.4	-1.5	-1.6
F-1S	S	2	5	0.5	52.5	-0.4	13.7	-1.2	54.8
H-2S	S	3	6	0.5	42.5	-0.2	2.6	-0.6	10.4
I-2S	S	1	4	1.5	40	1.0	-1.9	3.0	-7.6
K-2S	S	2	5	0.5	39	-0.4	0.2	-1.2	0.8
M-3S	S	3	6	0.5	36.5	-0.2	-3.4	-0.6	-13.6
A-2E	S	1	4	0.5	48	0	6.1	0	24.4
B-3E	S	2	5	2	40.5	1.1	1.7	3.3	6.8
C-1E	S	3	6	0.5	40.5	-0.2	0.6	-0.6	2.4
C-2E	S	1	4	1	38	0.5	-3.9	1.5	-15.6
G-2R	S	2	5	0	40	-0.9	1.2	-2.7	4.8
G-3R	S	3	6	1	37	0.3	-2.9	0.9	-11.6
H-3R	S	1	4	0.5	49.5	0	7.6	0	30.4
L-3R	S	2	5	2	46	1.1	7.6	3.3	30.4
M-2R	S	3	6	1	40.5	0.3	0.6	0.9	2.4
O-1R	S	1	4	0.5	44	0	2.1 LLD	0	6.4
O-2R	S	2	5	0	36.5	-0.9	-2.3	-2.7	-9.2
O-3R	S	3	6	1.5	41.5	0.8	1.6	2.4	6.4
N-2R	S	1	4	1	47.5	0.5	5.6	1.5	22.4

Page ____ of ____

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Survey Area: N1A	Survey Unit: EXTERIOR	Building: T903A
Survey Unit Description: Roof & Walls of Trailer T903A.		

Total Surface Activity Data Sheet

Sample location	RCT ID #	Inst ID #		Survey count time (sec)		LAB (cpm)		Gross Count (gcpm)		Net counts (cpm)		Net Activity (dpm/100cm2)	
		α	β	α	β	α	β	α	β	α	β	α	β
E-1N	1	7	7	90	90	2.7	385	10	281	7.3	-104	34.	-347
G-2N	1	7	7	90	90	0.7	372	12	321	11.3	-51	52.6	-170
J-2N	1	7	7	90	90	5.3	403	10.7	343	5.4	-60	25.1	-200
K-1N	1	7	7	90	90	5.3	429	8	348	2.7	-81	12.6	-271
L-1N	1	7	7	90	90	2.7	398	10	307	7.3	-91	34	-304
L-2N	1	7	7	90	90	4	414	9.3	351	5.3	-63	24.7	-210
N-2N	1	7	7	90	90	2.7	357	16	345	13.3	-12	61.9	-40
N-3N	1	7	7	90	90	4.7	377	44	365	39.3	-12	182.9	-40
C-3S	4	10	10	90	90	14.7	255	18	258	3.3	3	15.7	10
E-3S	4	10	10	90	90	15.3	283	12	278	-3.3	-5	-15.7	-17
F-1S	4	10	10	90	90	10	253	15.3	259	5.3	6	25.2	20
H-2S	4	10	10	90	90	15.3	253	8.7	311	-6.6	58	-31.4	194
I-2S	4	10	10	90	90	9.3	284	6.7	287	-2.6	3	-12.4	10
J-2S	4	10	10	90	90	14	293	18.7	283	4.7	-10	22.3	-34
N-3S	4	10	10	90	90	5.3	285	24.7	313	19.4	28	92.2	94
A-2E	2	8	8	90	90	6.0	372	21.3	300	15.3	-72	68.5	-237
B-3E	2	8	8	90	90	7.3	262	32.7	323	25.4	61	113.6	201
C-1E	2	8	8	90	90	8	303	8.7	293	0.7	-10	3.1	-33
C-2E	2	8	8	90	90	6	347	7.3	306	1.3	-41	5.8	-135
G-2R	3	9	9	90	90	7.3	364	31.3	451	24	87	117.3	293
G-3R	3	9	9	90	90	4.7	405	51.3	477	46.6	72	227.8	242
H-3R	3	9	9	90	90	14	392	50.7	509	36.7	117	179.4	394
L-3R	3	9	9	90	90	12.7	435	49.3	482	36.6	47	178.9	158
M-2R	3	9	9	90	90	4.7	374	39.3	491	34.6	117	169.1	394
N-2R	3	9	9	90	90	6.7	396	40	472	33.3	76	162.8	256
O-1R	3	9	9	90	90	6	381	58	529	52	148	254.2	498
O-2R	3	9	9	90	90	6.7	387	50	514	43.3	127	211.6	428
O-3R	3	9	9	90	90	6	418	32.7	480	26.7	62	130.5	209
C-1E QC	9	14	14	90	90	2	349	2	395	0	46	0	155
J-2S QC	9	14	14	90	90	0	360	6.7	321	6.7	-39	32.7	-131
I-2S QC	9	14	14	90	90	1.3	328	6	306	4.7	-22	23	-74
~~K-2S QC~~ 1E	9	14	14	90	90	1.3	329	7.3	341	6	12	29.3	40
C-1S QC	9	14	14	90	90	2	351	12	288	10	-63	48.9	-212

Note: QC measurements are to be collected by a different technician than the original survey. Mark the QC location number in the "Sample Location" column. Material background is assumed to be zero unless otherwise noted. "LAB" – local area background.

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Survey Area: N/A	Survey Unit: EXTERIOR	Building: T750E
Survey Unit Description: ROOF + WALLS OF TRAILER T750E		

Total Surface Activity Data Sheet

Sample location	RCT ID #	Inst ID #		Survey count time (sec)		LAB (cpm)		Gross Count (gcpm)		Net counts (cpm)		Net Activity (dpm/100cm2)	
		α	β	α	β	α	β	α	β	α	β	α	β
A-1N	1	7	7	90	90	6	288	7.3	273	1.3	-15	5.9	-50
B-1N	1	7	7	90	90	6.7	275	5.3	297	~~1.4~~	-22	~~6.4~~	73
B-2N	1	7	7	90	90	3.3	369	4	281	0.7	-88	3.2	-294
E-2N	1	7	7	90	90	2	275	6.7	302	4.7	27	21.4	90
G-1N	1	7	7	90	90	7.3	271	4	253	-3.3	-18	-15	-60
H-1N	1	7	7	90	90	7.3	275	7.3	305	0	30	0	100
D-1W	1	7	7	90	90	3.3	397	3.3	261	0	-136	0	-454
A-1S	2	8	8	90	90	7.3	259	16	281	8.7	22	41.4	74
B-2S	2	8	8	90	90	12	246	8	230	-4	-16	-19	-54
C-1S	2	8	8	90	90	8	261	8.7	255	+0.7	-6	~~3.3~~ ~~28.5~~	-20
C-2S	2	8	8	90	90	7.3	236	10.7	257	~~21~~ 13.4	21	~~16.9~~ 41.9	70
D-2S	2	8	8	90	90	10	253	10	273	~~25~~ 20	20	~~25.1~~	67
E-2S	2	8	8	90	90	10	243	12.7	243	~~2.7~~ 0	0	12.8	0
F-2S	2	8	8	90	90	11.3	249	12	254	0.7	5	3.3	17
H-1S	2	8	8	90	90	10	253	10	244	0	-9	0	-30
H-2S	2	8	8	90	90	6	257	12.7	255	6.7	-2	31.9	-7
C-2E	2	8	8	90	90	10	296	8.7	256	-1.3	-40	-6.2	-134
B-3R	3	9	9	90	90	4.7	439	26	420	21.3	-19	104.1	-64
C-2R	3	9	9	90	90	4	426	44	434	40	8	195.5	27
C-3R	3	9	9	90	90	6	444	28	447	22	3	107.5	10
D-1R	3	9	9	90	90	6.7	413	24.7	393	18	-20	88	-67
D-2R	3	9	9	90	90	3.3	482	48.7	421	45.4	-61	221.9	-205
E-2R	3	9	9	90	90	4.7	455	38	417	33.3	-38	162.8	-128
E-3R	3	9	9	90	90	2.7	435	44	413	41.3	-22	201.9	-74
F-2R	3	9	9	90	90	2	506	44	453	42	-53	205.3	-178
F-3R	3	9	9	90	90	6	432	37.3	460	31.3	28	153	94
G-2R	3	9	9	90	90	2.7	393	38	484	35.3	91	172.5	306
H-2R	3	9	9	90	90	3.3	447	52	481	48.7	34	238	114
E-1N QC	9	12	12	90	90	2	309	7.3	276	5.3	-33	25.9	-111
B-1W QC	9	12	12	90	90	0	352	8.7	295	8.7	-57	42.5	-192
A-1S QC	9	12	12	90	90	0	319	6	277	6	-42	29.3	-141
C-1S QC	9	12	12	90	90	2	352	4	229	2	-123	9.8	-414
[illegible] QC	9	12	12	90	90	0	324	5.3	309	5.3	-15	25.9	-51

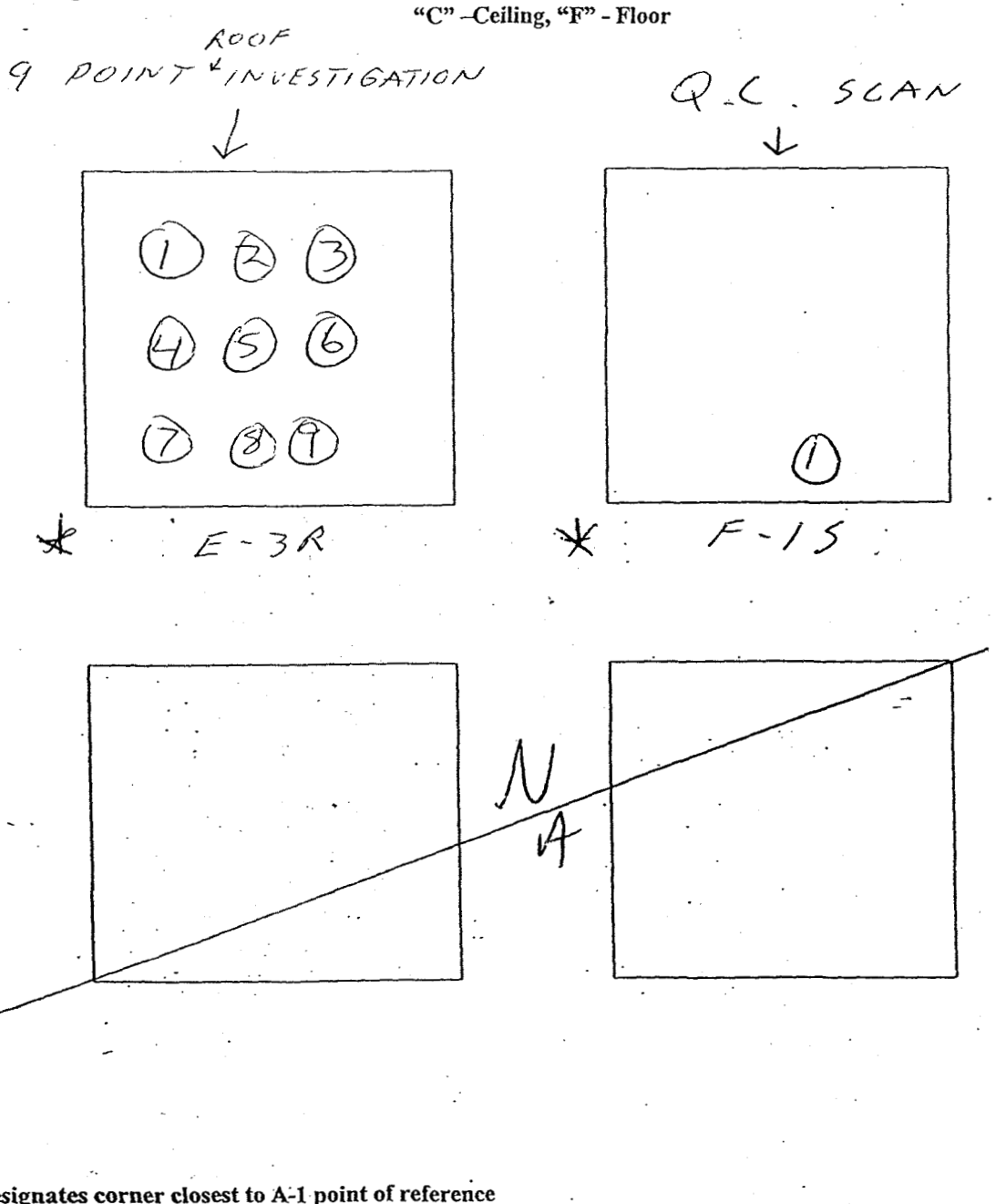
Note: QC measurements are to be collected by a different technician than the original survey. Mark the QC location number in the "Sample Location" column. Material background is assumed to be zero unless otherwise noted. "LAB" ~ local area background.

Final Survey NE Electra
Scan & Investigation Survey Map

Survey Area:	Survey Unit:	Building:
NA	EXTERIOR	T 750 E
Survey Unit Description: 9 POINT ROOF INVESTIGATION AND Q.C. SCAN		
RCT Initials/Date: JL 3-7-00	RCT Initials/Date: N/A	RCT Initials/Date: N/A

Refer to the Final Survey NE Electra Scan & Investigation Survey Form for instrumentation, surveyor & approval information.

Legend: "R"- Roof, "W" – West Wall, "S" – South Wall, "E" – East Wall, "N" – North Wall "C" –Ceiling, "F" - Floor



*** Designates corner closest to A-1 point of reference**

Results/Comments:

Electra alpha scans were performed at the locations detailed on the survey map(s). All required accessible areas were scanned. All initial scan results were <225 dpm/100cm², unless noted on the survey form.

Electra beta scans were performed in required accessible areas. Initial scan results indicated no detectable activity above background unless noted on the survey form.

Final Survey NE Electra
Scan & Investigation Survey Form
(Continuation Sheet)

Survey Area: N/A	Survey Unit: EXTERIOR	Building: T750E

Survey Unit Description: 9 POINT ROOF INVESTIGATION + Q.C. SCANS.

Loc. ID #	Electra DP-6 Beta				Electra DP-6 Alpha				
	RCT ID #	Inst. ID #	Elevated Audible observed? "Y" or "N"	60-sec PAT (dpm/100cm2)	RCT ID #	Inst. ID #	4-sec Audible observed? "Y" or "N"	30-sec Static (gcpm)	90-sec PAT (dpm/100cm²)
9 POINT ROOF INVESTIGATION									
E3R1					6	11			128
E3R2					6	11			105
E3R3					6	11			90
E3R4			N/A		6	11		N/A	151
E3R5					6	11			94
E3R6					6	11			159
E3R7					6	11			117
E3R8					6	11			94
E3R9					6	11			114
Q.C. SCAN									
FIS1	8	11	N	N/A	8	11	Y	6	N/A
							N/A		

Oasis Device # 2

RFETS; Golden, CO
Apr 24, 2000 13:11:44

Sample ID: 00A1148-025.001 Type: Unknown

Batch ID: unknown
Acquisition Start: April 24, 2000 09:31:58
Analysis Date: April 24, 2000 13:09:01
Procedure: polonium210 samples
Device: Oasis:02:04
Analysis Method: ROI Analysis
Spectrum File: 00000304.OXS LiveTime: 10,800.00

Calibrations:
Energy = 1.412E+02 +2.389E+00 * Chn Coeff. of Correlation: -0.998
Calibration Date: April 05, 2000 09:30:14 Std: AS 4188
Shape not Calibrated.
Efficiency = 3.398E-01 ± 4.596E-03
Calibration Date: April 05, 2000 09:40:39 Std: AS 4188

External Recovery No Ext.Recovery

Original Sample Amount:
1.000 ± 0.000 samp
Aliquot Amount: 1.000 ± 0.000 samp

ROI DATA

ROI #	ID	ASSOCIATED NUCLIDE	EXTENTS START	EXTENTS END	PK EN (keV)	FWHM (keV)
1	Po218	Po218	5552.6	6077.8	5815.3	1.2
2	Po214	Po214	7420.0	7770.1	7595.2	2.4
3	Po212		8521.5	8850.6	8684.6	1.2
4	Po210	Po210	2263.7	5402.1	5251.5	9.1

ROI ANALYSIS RESULTS

ROI ID	NET COUNTS	BKG/INTERF	CPM	ROI TYPE
Po218	-0.7 ± 0.2	0.69	-3.84E-03 ± 1.22E-03	Unknown
Po214	1.8 ± 1.4	0.21	9.96E-03 ± 7.88E-03	Unknown
Po212	-0.2 ± 0.1	0.21	-1.15E-03 ± 6.66E-04	Unknown
Po210	463.7 ± 21.9	13.35	2.576 ± 0.121	Unknown

NUCLIDE ANALYSIS RESULTS

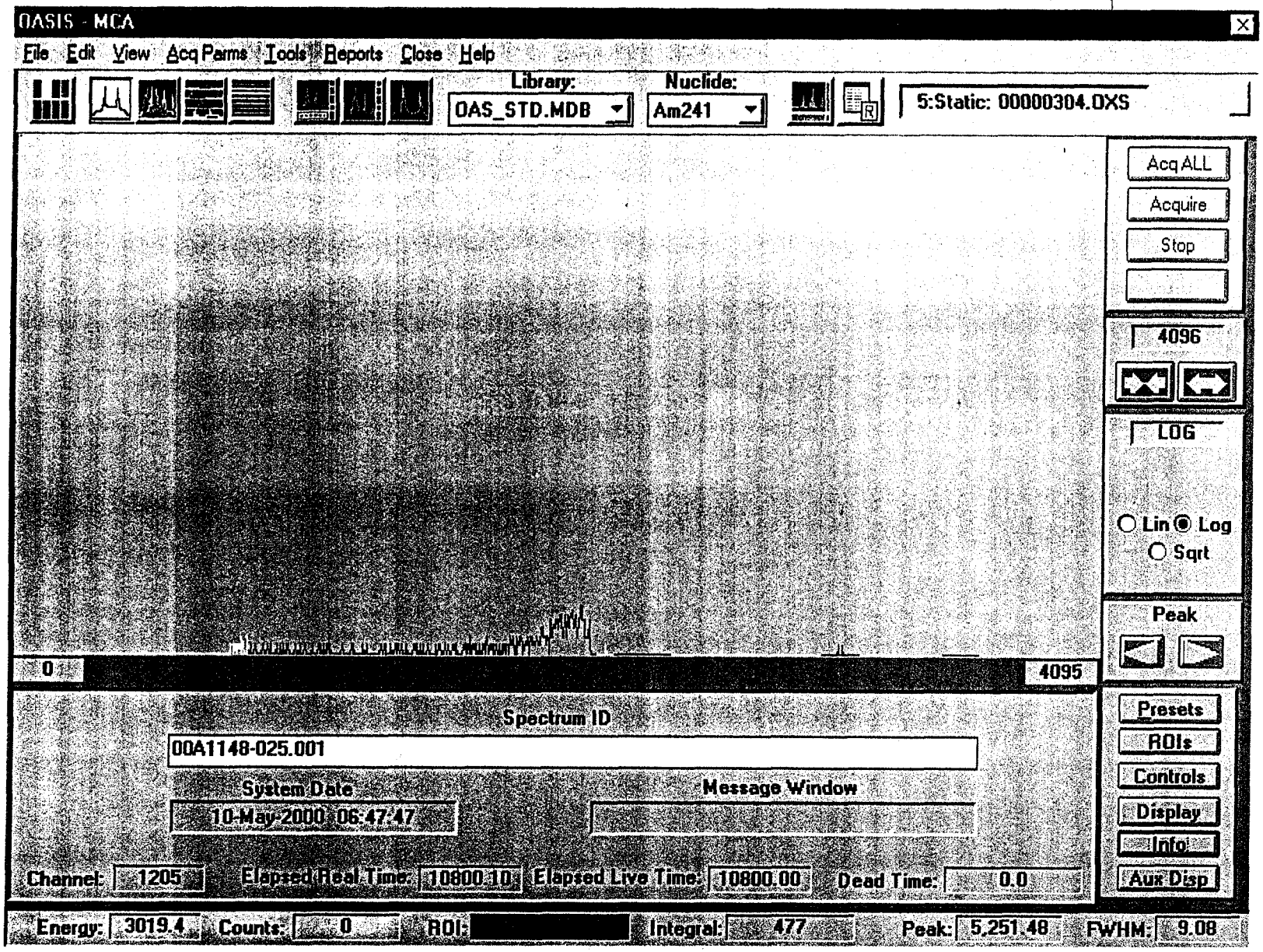
ROI ID	ASSOC NUC	EMM. PROB	ACTIVITY (dpm/samp)	MDA (dpm)
Po218	Po218	1.000	-1.13E-02 ± 3.58E-03	9.05E-02
Po214	Po214	1.000	0.029 ± 0.023	6.96E-02
Po212		1.000	-3.39E-03 ± 1.96E-03	6.96E-02
Po210	Po210	1.000	7.580 ± 0.372	2.47E-01

Activity reported as of April 24, 2000 09:31:58

ANALYSIS REVIEWED BY: _____

APPROVED BY: C J Bronson 5/9/00

193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Peak
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System Date
10-May-2000 06:47:47
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Dead Time: 0.0
Energy: 3019.4
Counts: 0
ROI:
Integral: 477
Peak: 5,251.48
FWHM: 9.08

194

Sample ID: **00A1148-026.001** **Type:** **Unknown**

Batch ID: unknowns
Acquisition Start: April 26, 2000 06:50:47
Analysis Date: April 26, 2000 09:51:07
Procedure: Po210 count
Device: Oasis:01:03
Analysis Method: ROI Analysis
Spectrum File: 00000494.OXS LiveTime: 10,800.00

Calibrations:
Energy = 6.596E+01 +2.779E+00 * Chn Coeff. of Correlation: -0.998
Calibration Date: April 24, 2000 13:03:27 Std: 1:3 Energy Cal
Shape not Calibrated.
Efficiency = 3.120E-01 ± 4.098E-03
Calibration Date: April 24, 2000 10:05:48 Std: TS4189

External Recovery No Ext.Recovery

Original Sample Amount: 1.000 ± 0.000 samp
Aliquot Amount: 1.000 ± 0.000 samp

ROI DATA

ROI #	ID	ASSOCIATED NUCLIDE	EXTENTS START	EXTENTS END	PK EN (keV)	FWHM (keV)
1	Po218	Po218	5550.0	6104.5	5827.5	2.8
2	Po214	Po214	6588.5	7874.7	7231.0	1.4
3	Po212	Po212	8393.8	8808.6	8601.2	1.4
4	Po210	Po210	2180.3	5343.3	5135.4	6.0

ROI ANALYSIS RESULTS

ROI ID	NET COUNTS	BKG/INTERF	CPM	ROI TYPE
Po218	0.7 ± 1.0	0.26	4.13E-03 ± 5.74E-03	Unknown
Po214	-0.3 ± 0.3	0.26	-1.42E-03 ± 1.42E-03	Unknown
Po212	-0.5 ± 0.4	0.51	-2.85E-03 ± 2.01E-03	Unknown
Po210	567.8 ± 24.0	7.17	3.155 ± 0.133	Unknown

NUCLIDE ANALYSIS RESULTS

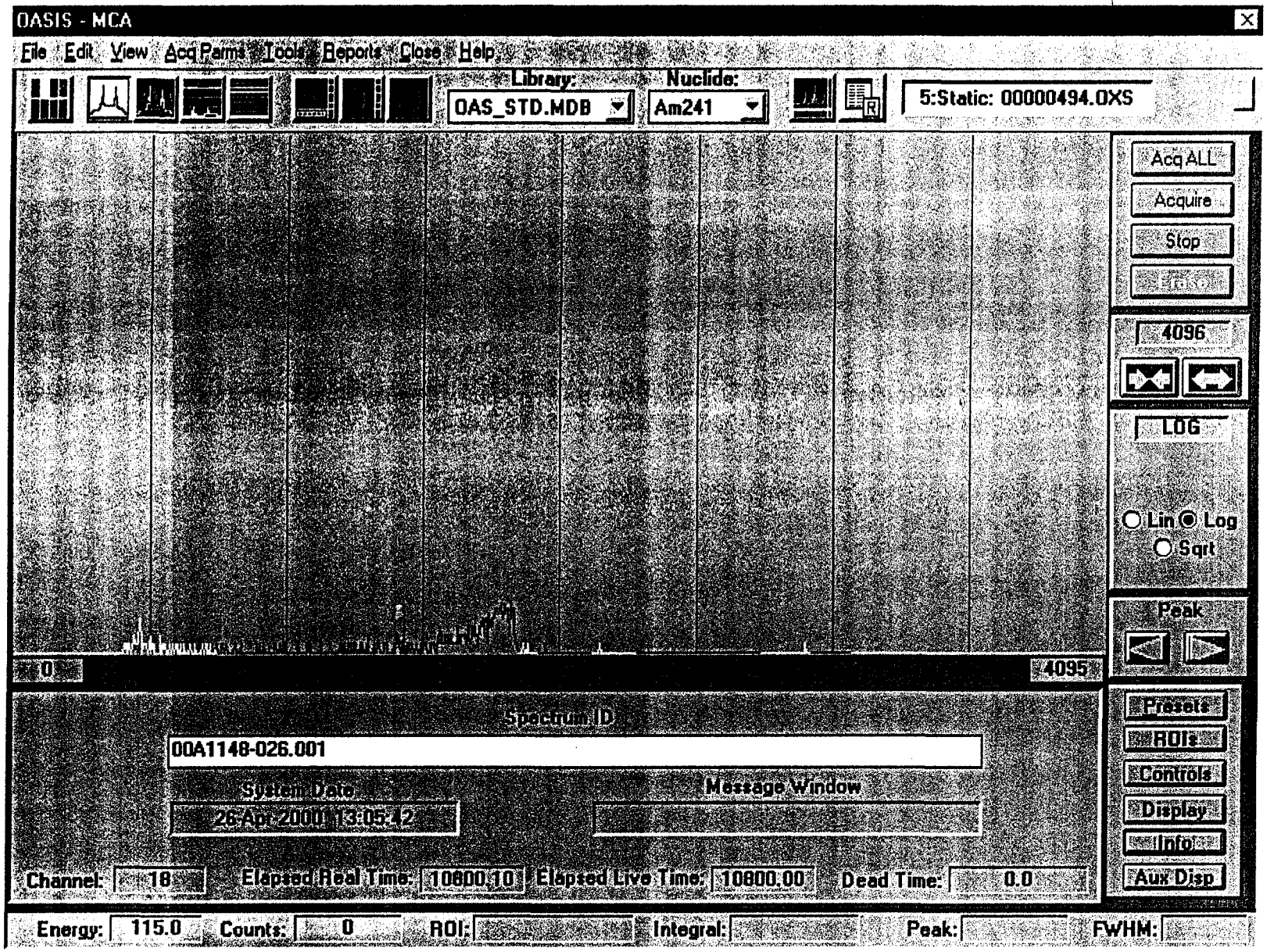
ROI ID	ASSOC NUC	EMM. PROB	ACTIVITY (dpm/samp)	MDA (dpm)
Po218	Po218	1.000	0.013 ± 0.018	8.14E-02
Po214	Po214	1.000	-4.56E-03 ± 4.56E-03	8.14E-02
Po212	Po212	1.000	-9.13E-03 ± 6.45E-03	9.52E-02
Po210	Po210	1.000	10.111 ± 0.448	2.24E-01

Activity reported as of April 26, 2000 06:50:47

ANALYSIS REVIEWED BY: [signature]

APPROVED BY: C J Bianconi 5/9/00

195


OASIS - MCA
File Edit View Acq Parms Tools Reports Close Help
Library:
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Nuclide:
Am241
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Acq ALL
Acquire
Stop
4096
LOG
Lin Log
Sqrt
Peak
0
4095
Spectrum ID
00A1148-026.001
System Date
26-Apr-2000 13:05:42
Message Window
Presets
ROIs
Controls
Display
Info
Aux Disp
Channel: 18
Elapsed Real Time: 10800.10
Elapsed Live Time: 10800.00
Dead Time: 0.0
Energy: 115.0
Counts: 0
ROI:
Integral:
Peak:
FWHM:

Sample ID: **00A1148-027.001** **Type:** **Unknown**

Batch ID: unknowns
Acquisition Start: April 26, 2000 06:48:31
Analysis Date: April 26, 2000 09:48:49
Procedure: Po210 count
Device: Oasis:01:02
Analysis Method: ROI Analysis
Spectrum File: 00000493.OXS LiveTime: 10,800.00

Calibrations:
Energy = 5.823E+01 +2.790E+00 * Chn Coeff. of Correlation: -0.998
Calibration Date: April 07, 2000 14:55:56 Std: 1:2 energy cal
Shape not Calibrated.
Efficiency = 3.089E-01 ± 4.062E-03
Calibration Date: April 07, 2000 15:15:30 Std: TS4189

External Recovery No Ext.Recovery

Original Sample Amount: 1.000 ± 0.000 samp
Aliquot Amount: 1.000 ± 0.000 samp

ROI DATA

ROI #	ID	ASSOCIATED NUCLIDE	EXTENTS START	EXTENTS END	PK EN (keV)	FWHM (keV)
1	Po218	Po218	5550.0	6104.5	5826.0	2.8
2	Po214	Po214	6588.5	7874.7	7229.6	2.8
3	Po212	Po212	8393.8	8808.6	8599.7	2.8
4	Po210	Po210	2180.3	5343.3	5100.5	4.6

ROI ANALYSIS RESULTS

ROI ID	NET COUNTS	BKG/INTERF	CPM	ROI TYPE
Po218	2.0 ± 1.4	0.00	0.011 ± 7.86E-03	Unknown
Po214	0.7 ± 1.0	0.26	4.13E-03 ± 5.74E-03	Unknown
Po212	3.0 ± 1.7	0.00	0.017 ± 9.62E-03	Unknown
Po210	578.4 ± 24.2	4.62	3.213 ± 0.134	Unknown

NUCLIDE ANALYSIS RESULTS

ROI ID	ASSOC NUC	EMM. PROB	ACTIVITY (dpm/samp)	MDA (dpm)
Po218	Po218	1.000	0.036 ± 0.025	4.87E-02
Po214	Po214	1.000	0.013 ± 0.019	8.23E-02
Po212	Po212	1.000	0.054 ± 0.031	4.87E-02
Po210	Po210	1.000	10.401 ± 0.456	1.91E-01

Activity reported as of April 26, 2000 06:48:31

ANALYSIS REVIEWED BY: _____

APPROVED BY: _____ 5/9/00

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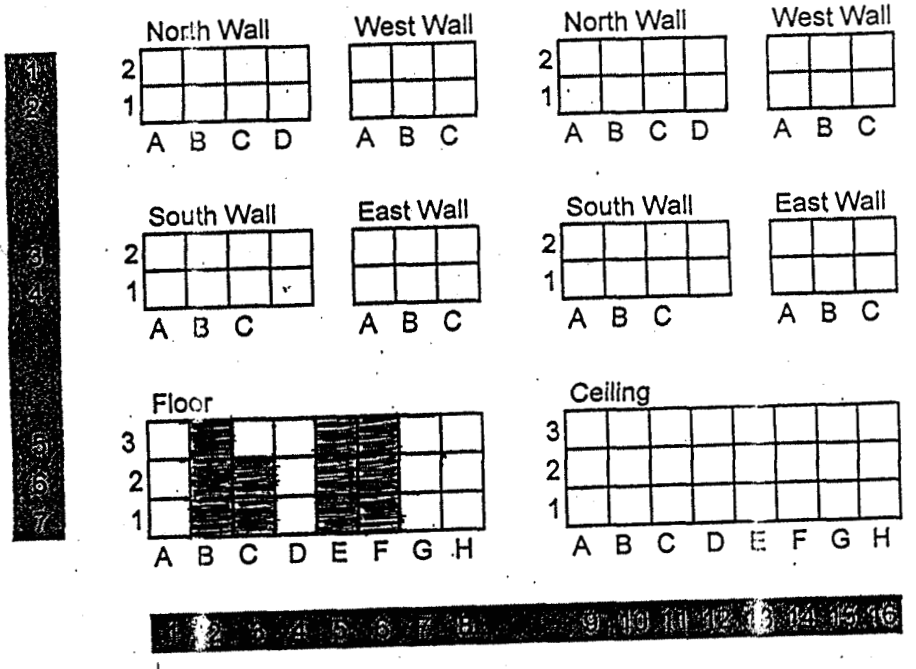
T750E -- Radiological Survey Data for Interior Survey Unit

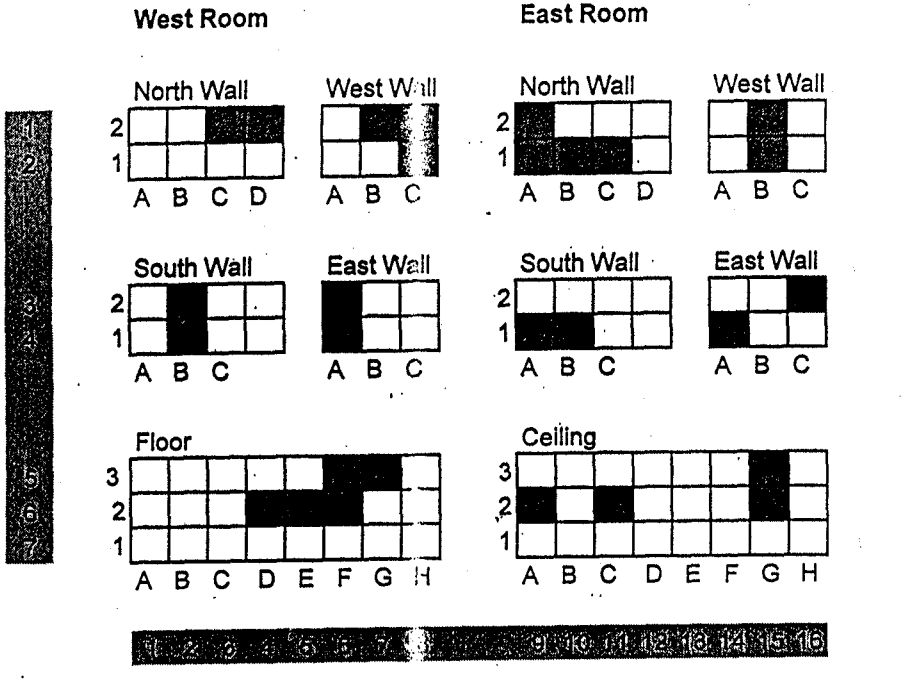
- Map of Locations
  - Scans
  - Surveys
- Removable and Total Survey Results - Detail

SCAN LOCATIONS:

T750E Interior



T750E Interior



X Coordinate	Y Coordinate
16	4

= one square meter

= direct & swipe

Total Surface Area = 104 m^2

10% Scan Surface Area = 10.4 m^2

	X	Y		X	Y		X	Y
1	16	3	11	9	2	21	15	5
2	9	1	12	8	1	22	10	2
3	2	4	13	10	4	23	9	4
4	14	4	14	8	2	24	4	6
5	3	1	15	11	2	25	6	6
6	9	6	16	6	3	26	15	1
7	15	2	17	5	6	27	4	1
8	6	4	18	11	6	28	7	5
9	7	1	19	2	3			
10	15	6	20	6	5			

Survey Area: N/A	Survey Unit: INTERIOR	Building: T750E
Survey Unit Description: REMOVABLE RESULTS FROM TRAILER T750E.		

Removable Contamination Data Sheet

Sample Location	RCT ID #	Inst ID #		Gross Counts (gcpm)		Net Counts (cpm)		Removable Activity (dpm/100cm2)	
		α	β	α	β	α	β	α	β
WEST ROOM									
C-2N	2	1	3	0	42.5	-0.5	2.5	-1.5	10
D-2N	2	2	4	0	36.5	-0.4	-6	-1.2	-24
B-2W	2	1	3	1	41	0.5	1	1.5	4
C-1W	2	2	4	1.5	46	1.1	3.5	3.3	14
C-2W	2	1	3	0	46	-0.5	6	-1.5	24
B-1S	2	2	4	1	36.5	0.6	-6	1.8	-24
B-2S	2	1	3	0	32.5	-0.5	-7.5	-1.5	-30
A-1E	2	2	4	1	39	0.6	-3.5	1.8	-14
A-2E	2	1	3	0	38.5	-0.5	-1.5	-1.5	-6
EAST ROOM									
A-1W	2	2	4	0	37	-0.4	-5.5	-1.2	22
A-2W	2	1	3	0.5	38	0	-2	0	-8
[illegible]W	2	2	4	0	38	-0.4	-4.5	-1.2	-18
[illegible]W	2	1	3	0.5	42	0	2	0	8
B-1W	2	2	4	0.5	39	0.1	-3.5	0.3	-14
B-2W	2	1	3	0.5	39.5	0	-0.5	0	-2
A-1S	2	2	4	0	49.5	-0.4	7	-1.2	28
B-1S	2	1	3	1	36.5	0.5	-3.5	1.5	-14
A-1E	2	2	4	0	44	-0.4	1.5	-1.2	6
C-2E	2	1	3	1	51	0.5	11	1.5	44
FLOOR									
D-2F	2	2	4	0.5	41	0.1	-1.5	0.3	-6
E-2F	2	1	3	0	39	-0.5	-1	-1.5	-4
F-2F	2	2	4	0.5	38	0.1	-4.5	0.3	-18
F-3F	2	1	3	0	32.5	-0.5	-7.5	-1.5	-30
G-3F	2	2	4	1	42.5	0.6	0	1.8	0
CEILING									
A-2C	2	1	3	0	41.5	-0.5	1.5	-1.5	6
C-2C	2	2	4	0.5	42.5	0.1	0	0.3	0
G-2C	2	1	3	1	38.5	0.5	-1.5	1.5	-6
G-3C	2	2	4	0.5	45.5	0.1	3	0.3	12
						NA			

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N

Survey Area: N/A	Survey Unit: INTERIOR	Building: T750E
Survey Unit Description: INTERIOR TSA's + Q.C. CHECKS FOR T750E		

Total Surface Activity Data Sheet

Sample location	RCT ID #	Inst ID #		Survey count time (sec)		LAB (cpm)		Gross Count (gcpm)		Net counts (cpm)		Net Activity (dpm/100cm2)	
		α	β	α	β	α	β	α	β	α	β	α	β
WEST	ROOM			90	90								
C-2N	1	7	7	90	90	1.3	358	3.3	261	2	-97	8.9	-319
D-2N	1	7	7	90	90	1.3	347	1.3	237	0	-110	0	-362
B-2W	1	7	7	90	90	0	352	2	281	2	-71	8.9	-234
C-1W	1	7	7	90	90	2.7	325	3.3	266	0.6	-59	2.7	-194
C-2W	1	7	7	90	90	2	319	2	261	0	-58	0	-191
B-1S	1	7	7	90	90	2	347	3.3	261	1.3	-86	5.8	-283
B-2S	1	7	7	90	90	0.7	346	3.3	249	2.6	-97	11.6	-319
A-1E	1	7	7	90	90	4	333	6.7	235	2.7	-98	12.1	-323
A-2E	1	7	7	90	90	2	337	2.7	253	0.7	-84	3.1	-277
EAST	ROOM			90	90								
A-1N	1	7	7	90	90	0	343	6	345	6	2	26.8	7
A-2N	1	7	7	90	90	3.3	338	4.7	249	1.4	-89	6.3	-293
B-1N	1	7	7	90	90	2	355	2.7	348	0.7	-7	3.1	-23
C-1N	1	7	7	90	90	2	311	4	260	2	-51	8.9	-168
B-1W	1	7	7	90	90	3.3	334	5.3	247	2	-87	8.9	-287
B-2W	1	7	7	90	90	3.3	352	2.7	252	-0.6	-100	-2.7	-329
A-1S	1	7	7	90	90	1.3	340	0.7	260	-0.6	-80	-2.7	-264
B-1S	1	7	7	90	90	0.7	280	1.3	276	0.6	-4	2.7	-13
A-1E	1	7	7	90	90	2.7	336	5.3	253	2.6	-83	11.6	-273
C-2E	1	7	7	90	90	0.7	334	2	267	1.3	-67	5.8	-221
				90	90								
				90	90								
				90	90								
				90	90			N/A					
				90	90								
				90	90								
				90	90								
C-2NQC	8	8	8	90	90	0.7	367	4	308	3.3	-59	15.8	-206
C-1WQC	8	8	8	90	90	2	346	4	267	2	-79	9.6	-275
B-1SQC	8	8	8	90	90	2.7	366	3.3	296	0.6	-70	2.9	-244
B-1WQC	8	8	8	90	90	2.7	312	6	309	3.3	-3	15.8	-10
A-1SQC	8	8	8	90	90	1.3	366	2.7	300	1.4	-66	6.7	-230

Note: QC measurements are to be collected by a different technician than the original survey. Mark the QC location number in the "Sample Location" column. Material background is assumed to be zero unless otherwise noted. "LAB" ~ local area background.

Survey Area: N/A	Survey Unit: INTERIOR	Building: T750E
Survey Unit Description: INTERIOR TSA'S FOR T750E.		

Total Surface Activity Data Sheet

Sample location	RCT ID #	Inst ID #		Survey count time (sec)		LAB (cpm)		Gross Count (gcpm)		Net counts (cpm)		Net Activity (dpm/100cm2)	
		α	β	α	β	α	β	α	β	α	β	α	β
FLOOR				90	90								
D-2F	1	7	7	90	90	1.3	352	2	384	0.7	32	3.1	~~105~~
E-2F	1	7	7	90	90	0.7	343	4.7	357	4	14	17.9	46
F-2F	1	7	7	90	90	1.3	358	4.7	342	3.4	-16	15.2	-53
F-3F	1	7	7	90	90	2	245	0.7	355	-1.3	110	-5.8	362
G-3F	1	7	7	90	90	0.7	349	1.3	364	0.6	15	2.7	4.9
CEILING				90	90								
A-2C	1	7	7	90	90	1.3	343	2	327	0.7	-16	3.1	-53
C-2C	1	7	7	90	90	1.3	359	2.7	331	1.4	-28	6.3	-92
G-2C	1	7	7	90	90	1.3	318	3.3	354	2	66	8.9	217
G-3C	1	7	7	90	90	0.7	313	2	344	1.3	31	5.8	102
				90	90								
				90	90								
				90	90								
				90	90								
				90	90								
				90	90								
				90	90								
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QC				90	90								
QC				90	90								
QC				90	90								
QC				90	90								
QC				90	90								
QC				90	90								

N/A

Note: QC measurements are to be collected by a different technician than the original survey. Mark the QC location number in the "Sample Location" column. Material background is assumed to be zero unless otherwise noted. "LAB" ~ local area background.

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F-3

T750E – Asbestos Inspector's Report

T750E

ASBESTOS INSPECTOR'S REPORT

I, the undersigned Certified Asbestos Inspector, certification # 1387 in the state of Colorado, attest to the asbestos inspection and sampling results as described below, for the following facility (at RFETS): Trailer 750E.

General Facility Location: North Buffer Zone; South of new firing range.

INSPECTION RESULTS

Trailer 750E contains ceiling tile, floor linoleum and drywall with no tape joint compound. Fiberglass insulation was found throughout the walls. The following table summarizes the results of the samples collected and the percent and type of asbestos detected:

SAMPLE RESULTS

Sample Number	Material Sampled & Location	Analytical Results
T750E-03012000-05-011	Brown sheet linoleum	20% Chrysotile in paper backing
T750E-03012000-05-012	Brown sheet linoleum	20% Chrysotile in paper backing
T750E-03012000-05-013	2' x 4' white ceiling tile	None Detected
T750E-03012000-05-014	2' x 4' white ceiling tile	None Detected
T750E-03012000-05-015	Drywall (no tape joint compound)	None Detected
T750E-03012000-05-016	Drywall (no tape joint compound)	None Detected
T750E-03012000-05-017	Drywall (no tape joint compound)	None Detected

Andre Gonzalez — INSPECTOR'S NAME

[signature] — SIGNATURE

7/12/00 — DATE

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F-4

Type 1 Facility Checklist

Type 1 Facility Checklist

TYPE 1 FACILITY BUILDING T-750E

CURRENT LANDLORD: RFCSS

DATE OF COMPLETION: 02/29/00

ITEM	YES	NO
Does the facility contain radiological postings?		X
Does the facility contain chemical postings?		X
Are there any installed hazards?		X
Is there any information that indicates this facility was impacted by DOE chemical and/or radiological operations?		X
Are there RCRA units within the facility		X
Is there a history of the building available?	X	
Is there any equipment/furniture left in the facility?		X
Is there a future mission identified for the facility?		X
Will the facility be left unsecured after it is vacated?		X

If any answer to any of the above questions is "Yes", complete the following questions and complete the "graded" PEP in accordance with Chapter 2.

Note: An answer of "Yes" to any question, specifically one dealing with hazards, ***may*** *indicate the facility is not a Type 1 Facility. Check with the D&D Programs office.*

If the answer to all question is "No" complete the "graded" PEP in accordance with Chapter 2.

1. List the Radiological Hazards, location, and quantity:

   Based on the historical data found and interviews taken there are no hazards in this trailer.

2. List the Chemical Hazards, location, and quantity:

   None. Based on historical data and interviews taken there are no chemical hazards in this trailer.

3. List the Physical Hazards:

   NONE

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G-1

T903A – Radiological Survey Data for Exterior Survey Unit

- Summary of Radiological Survey/Sample Results
- Map of Locations
  - Scans
  - Surveys
- Removable and Total Survey Results – Detail
- Laboratory Alpha Spec (Sample) Results – Detail

Radiological Survey/Sample Results for T903A

Total Surface Activity Measurements dpm/100 cm²

	Alpha	Beta
Interior	# Required	# Obtained
	28	28
MIN	-19.6	-347.7
MAX	37	215.5
MEAN	6.7	-111.4
STD DEV	12.1	172.9
Exterior	# Required	# Obtained
	28	28
MIN	-31.4	-347
MAX	254.2	498
MEAN	74.7	48.7
STD DEV	81.5	237.3
$DCGL_W$	100	5000

Removable Activity Measurements dpm/100 cm²

	Alpha	Beta
Interior	# Required	# Obtained
	28	28
MIN	-1.5	-51.2
MAX	3.6	35.2
MEAN	0.5	1.6
STD DEV	1.7	18.7
Exterior	# Required	# Obtained
	28	28
MIN	-2.7	-21.6
MAX	6.4	54.8
MEAN	0.4	6.6
STD DEV	2.1	16.9
$DCGL_W$	20	1000

Media Sample Activity

# Required	# Obtained
4	4

Contaminant	Y/N	Det. Sens. dpm/100 cm²
U present	N	79
Pu present	N	79

Total Po-210 Results dpm/100 cm²

MIN	12.8
MAX	214.1
MEAN	88.8
STD DEV	9.4

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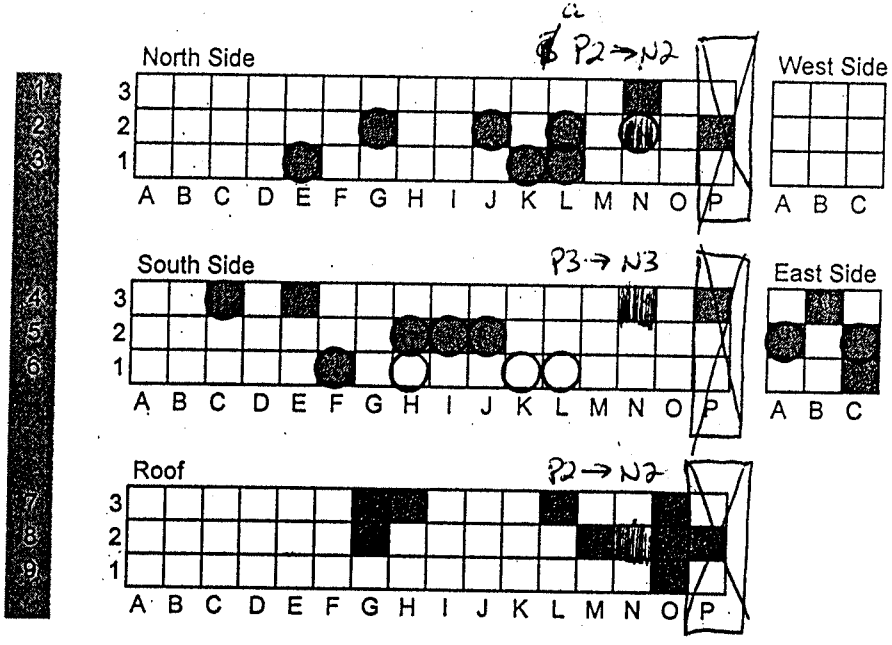
SCAN LOCATIONS DENOTED BY "O":

T903A Exterior



X Coordinate	Y Coordinate
10	3

= one square meter

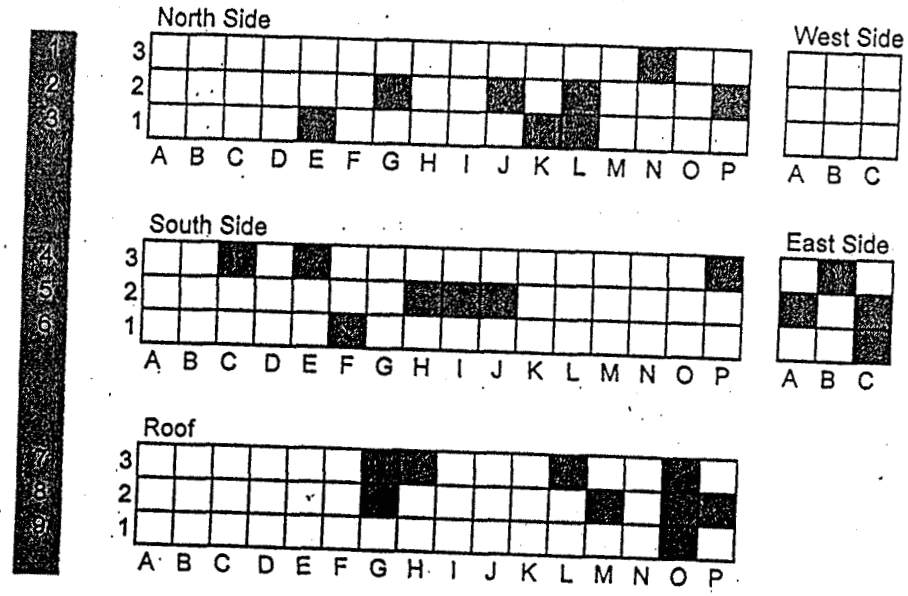
= direct & swipe

Total Surface Area = 162 m²

10% Scan Surface Area = 16.2 m²

	X	Y		X	Y		X	Y
1	3	4	11	14	1	21	5	4
2	12	7	12	16	4	22	7	8
3	15	7	13	19	5	23	13	8
4	5	3	14	12	3	24	16	8
5	15	8	15	9	5	25	10	5
6	18	4	16	12	2	26	8	5
7	7	2	17	19	6	27	15	9
8	17	5	18	16	2	28	11	3
9	6	6	19	10	2			
10	8	7	20	7	7			

T903A Exterior



X-Coordinate	Y-Coordinate
10	3

= one square meter

= direct & swipe

Total Surface Area = 162 m²

10% Scan Surface Area = 16.2 m²

	X	Y		X	Y		X	Y
1	3	4	11	14	1	21	5	4
2	12	7	12	16	4	22	7	8
3	15	7	13	19	5	23	13	8
4	5	3	14	12	3	24	16	8
5	15	8	15	9	5	25	10	5
6	18	4	16	12	2	26	8	5
7	7	2	17	19	6	27	15	9
8	17	5	18	16	2	28	11	3
9	6	6	19	10	2			
10	8	7	20	7	7			

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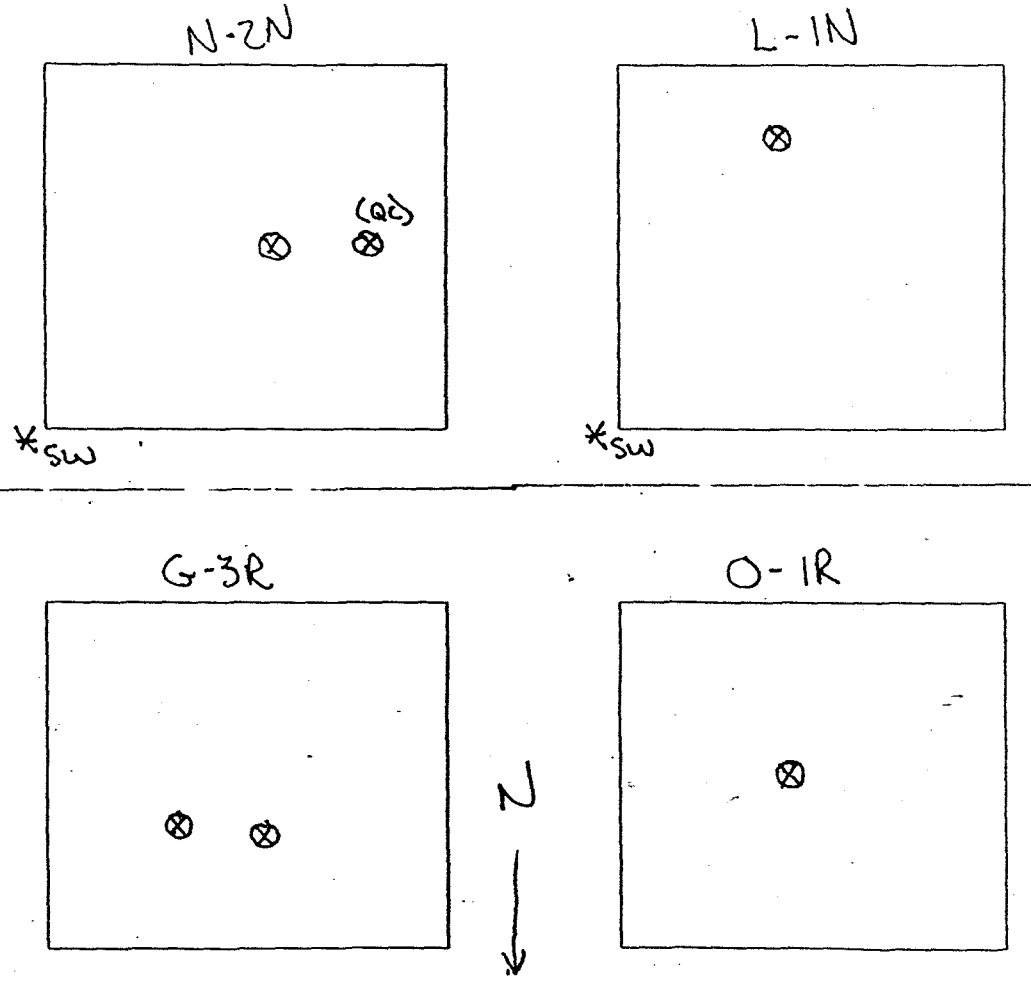
Final Survey NE Electra
Scan & Investigation Survey Map

Survey Area: NA	Survey Unit: Exterior	Building: T903A
Survey Unit Description: Roof Sample Location		
RCT Initials/Date: [illegible] 3/29/00	RCT Initials/Date: NA	RCT Initials/Date: NA

Refer to the Final Survey NE Electra Scan & Investigation Survey Form for instrumentation, surveyor & approval information.

Legend: "R"- Roof, "W" – West Wall, "S" – South Wall, "E" – East Wall, "N" – North Wall "C" –Ceiling, "F" - Floor



⊗ SAMPLE CUTOUT

*** Designates corner closest to A-1 point of reference**

Results/Comments:
Electra alpha scans were performed at the locations detailed on the survey map(s). All required accessible areas were scanned. All initial scan results were <225 dpm/100cm², unless noted on the survey form.
Electra beta scans were performed in required accessible areas. Initial scan results indicated no detectable activity above background unless noted on the survey form.

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Survey Area: NA	**Survey Unit:** EXTERIOR	**Building:** T903A
Survey Unit Description Roof and Wall Sample Location		

Removable Contamination Data Sheet

Sample location	RCT ID #	Inst ID #		Gross Counts (gcpm)		Net Counts (cpm)		Removeable Activity (dpm/100cm2)	
		α	β	α	β	α	β	α	β
PRE						0	0	0.0	0
N-2N	3	1	2	1	38.5	0.5	0.4	1.5	2
POST						0	0	0.0	0
N-2N	3	3	4	0	39.5	-0.6	0.7	-1.8	3
PRE						0	0	0.0	0
N-2NQC	3	1	2	0.5	39	0	0.9	0.0	4
POST						0	0	0.0	0
N-2NQC	3	3	4	0	35.5	-0.6	-3.3	-1.8	-13
PRE						0	0	0.0	0
L-1N	3	1	2	0	42	-0.5	3.9	-1.5	16
POST						0	0	0.0	0
L-1N	3	3	4	2.5	37.5	1.9	-1.3	5.8	-5
PRE						0	0	0.0	0
G-3R	3	1	2	0	36.5	-0.5	-1.6	-1.5	-6
POST						0	0	0.0	0
G-3R	3	1	2	0.5	45	0	6.9	0.0	28
PRE						0	0	0.0	0
[illegible]3RQC	3	3	4	1	35.5	0.4	-3.3	1.2	-13
[illegible]OST						0	0	0.0	0
G-3RQC	3	3	4	0	41.5	-0.6	2.7	-1.8	11
PRE						0	0	0.0	0
O-1R	3	1	2	0	37.5	-0.5	-0.6	-1.5	-2
POST						0	0	0.0	0
O-1R	3	3	4	0	34.5	-0.6	-4.3	-1.8	-17
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0

N/A

Page 4 of 5

Survey Area: NA	Survey Unit: EXTERIOR	Building: T903A
Survey Unit Description: Roof and Wall Sample Location		

Total Surface Activity Data Sheet

Sample location	RCT ID #	Inst ID #		Survey count time (sec)		Gross Count (gcpm)		LAB (cpm)		Net counts (cpm)		Net Activity (dpm/100cm2)	
		α	β	α	β	α	β	α	β	α	β	α	β
PRE				90	90					0.0	0	0.0	0
N-2N	1	7	7	90	90	16.0	330	4.0	380	12.0	-50	57.6	-167
POST				90	90					0.0	0	0.0	0
N-2N	1	7	7	90	90	20.0	335	5.3	409	14.7	-74	70.5	-248
PRE				90	90					0.0	0	0.0	0
N-2NQC	2	8	8	90	90	29.3	329	2.7	305	26.6	24	130.0	81
POST				90	90					0.0	0	0.0	0
N-2NQC	2	8	8	90	90	17.3	318	3.3	418	14.0	-100	68.4	-337
PRE				90	90					0.0	0	0.0	0
L-1N	2	8	8	90	90	7.3	293	3.3	323	4.0	-30	19.6	-101
POST				90	90					0.0	0	0.0	0
L-1N	2	8	8	90	90	9.3	273	3.3	313	6.0	-40	29.3	-135
PRE				90	90					0.0	0	0.0	0
G-3R	1	7	7	90	90	51.3	468	3.3	383	48.0	85	230.2	284
POST				90	90					0.0	0	0.0	0
G-3R	1	7	7	90	90	38.7	449	5.3	357	33.4	92	160.2	308
PRE				90	90					0.0	0	0.0	0
G-3RQC	2	8	8	90	90	35.3	428	2.0	441	33.3	-13	162.8	-44
POST				90	90					0.0	0	0.0	0
G-3RQC	2	8	8	90	90	28.0	444	2.7	393	25.3	51	123.7	172
PRE				90	90					0.0	0	0.0	0
O-1R	1	7	7	90	90	60.7	508	2.0	381	58.7	127	281.5	425
POST				90	90					0.0	0	0.0	0
O-1R	1	7	7	90	90	38.0	465	7.3	384	30.7	81	147.2	271
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
QC				90	90					0.0	0	0.0	0
QC				90	90					0.0	0	0.0	0
QC				90	90					0.0	0	0.0	0
QC				90	90					0.0	0	0.0	0
QC				90	90					0.0	0	0.0	0

Note: QC measurements are to be collected by a different technician than the original survey. Mark the QC location number in the "Sample Location" column. Material background is assumed to be zero unless otherwise noted. "LAB" ~ local area background.

Survey Area: N/A	Survey Unit: EXTERIOR	Building: T903A
Survey Unit Description: ROOF & WALLS OF TRAILER T903A.		

Removable Contamination Data Sheet

Sample Location	RCT ID #	Inst ID #		Gross Counts (gcpm)		Net Counts (cpm)		Removable Activity (dpm/100cm2)	
		α	β	α	β	α	β	α	β
E-1N	S	1	4	0	36.5	-0.5	-5.4	-1.5	-21.6
G-2N	S	2	5	1.5	44.5	0.6 LLD	5.7	1.8	22.8
J-2N	S	3	6	0	42	~~-0.7~~ -0.5 LLD	~~3.5~~ 2.1	-2.1	8.4
K-1N	S	1	4	0.5	45.5	0	-3.6	0	14.4
L-1N	S	2	5	1	42	0.1	3.2	0.3	12.8
L-2N	S	3	6	0.5	35.5	-0.2	-4.4	-0.6	-17.6
N-2N	S	1	4	1.5	39.5	1.0	-2.4	3	9.6
N-3N	S	2	5	3.0	41.5	2.1	2.7	~~30.5~~ 6.4	10.8
C-3S	S	3	6	0	40	-0.7	0.1	-2.1	0.4
E-3S	S	1	4	0	41.5	-0.5	-0.4	-1.5	-1.6
F-1S	S	2	5	0.5	52.5	-0.4	13.7	-1.2	54.8
H-2S	S	3	6	0.5	42.5	-0.2	2.6	-0.6	10.4
I-2S	S	1	4	1.5	40	1.0	-1.9	3.0	-7.6
J-2S	S	2	5	0.5	39	-0.4	0.2	-1.2	0.8
L-3S	S	3	6	0.5	36.5	-0.2	-3.4	-0.6	-13.6
A-2E	S	1	4	0.5	48	0	6.1	0	24.4
B-3E	S	2	5	2	40.5	1.1	1.7	3.3	6.8
C-1E	S	3	6	0.5	40.5	-0.2	0.6	-0.6	2.4
C-2E	S	1	4	1	38	0.5	-3.9	1.5	-15.6
G-2R	S	2	5	0	40	-0.9	1.2	-2.7	4.8
G-3R	S	3	6	1	37	0.3	-2.9	0.9	-11.6
H-3R	S	1	4	0.5	49.5	0	7.6	0	30.4
L-3R	S	2	5	2	46	1.1	7.6	3.3	30.4
M-2R	S	3	6	1	40.5	0.3	0.6	0.9	2.4
O-1R	S	1	4	0.5	44	0	2.1 LLD	0	6.4
O-2R	S	2	5	0	36.5	-0.9	-2.3	-2.7	-9.2
O-3R	S	3	6	1.5	41.5	0.8	1.6	2.4	6.4
N-2R	S	1	4	1	47.5	0.5	5.6	1.5	22.4

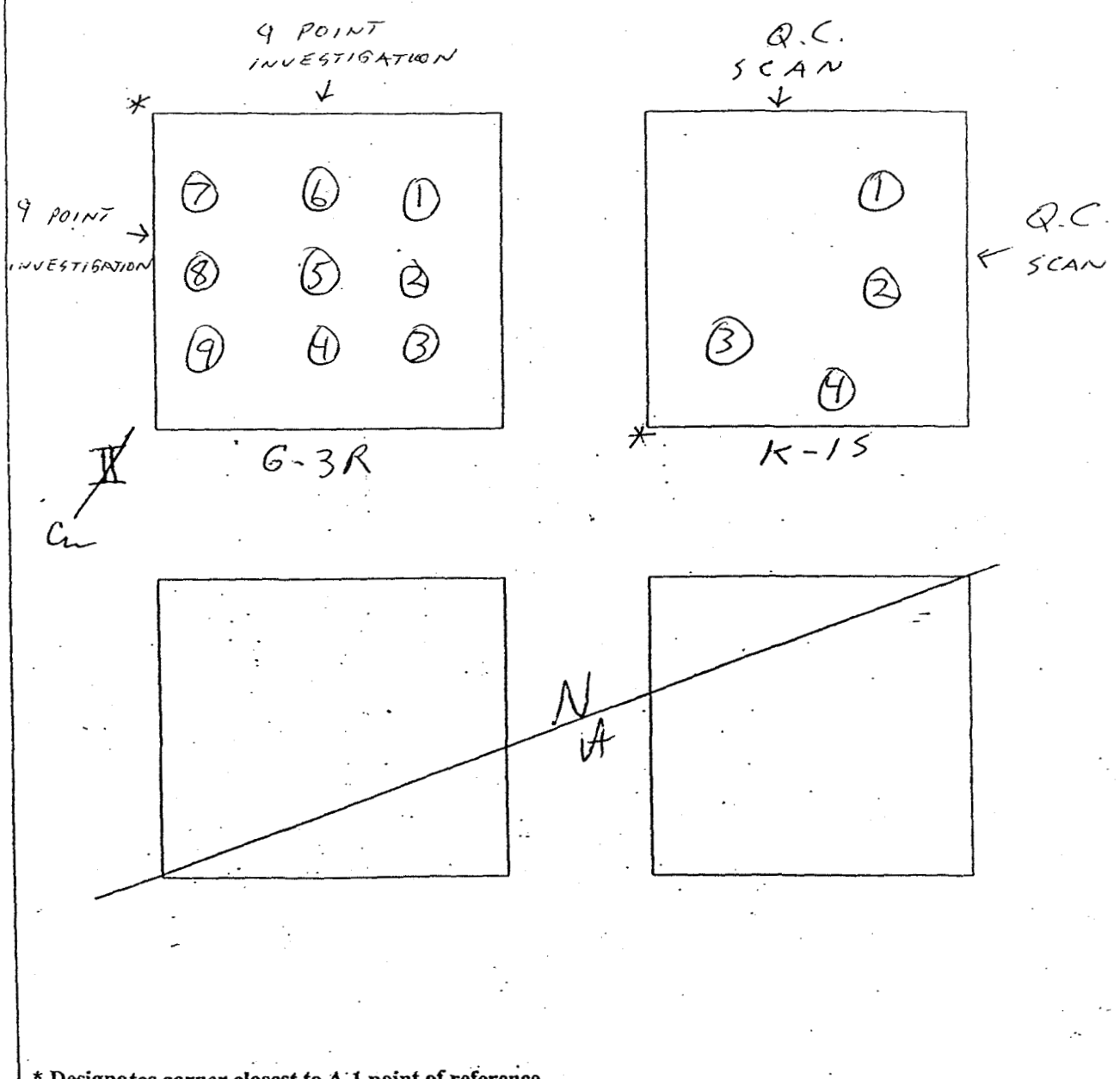
215

Final Survey NE Electra
Scan & Investigation Survey Map

Survey Area:	Survey Unit:	Building:
NA	EXTERIOR	T903A
Survey Unit Description: 9 POINT ROOF INVESTIGATION AND SCAN, Q.C.'s		
RCT Initials/Date: PC 3-7-00	RCT Initials/Date: N/A	RCT Initials/Date: N/A

Refer to the Final Survey NE Electra Scan & Investigation Survey Form for instrumentation, surveyor & approval information.

Legend: "R"- Roof, "W" – West Wall, "S" – South Wall, "E" – East Wall, "N" – North Wall "C" –Ceiling, "F" - Floor



*** Designates corner closest to A-1 point of reference**

Results/Comments:
Electra alpha scans were performed at the locations detailed on the survey map(s). All required accessible areas were scanned. All initial scan results were <225 dpm/100cm², unless noted on the survey form.
Electra beta scans were performed in required accessible areas. Initial scan results indicated no detectable activity above background unless noted on the survey form.

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Final Survey NE Electra
Scan & Investigation Survey Form
(Continuation Sheet)

Survey Area: N/A	Survey Unit: EXTERIOR	Building: TG03A

Survey Unit Description: 9-POINT ROOF INVESTIGATION + QC SCANS

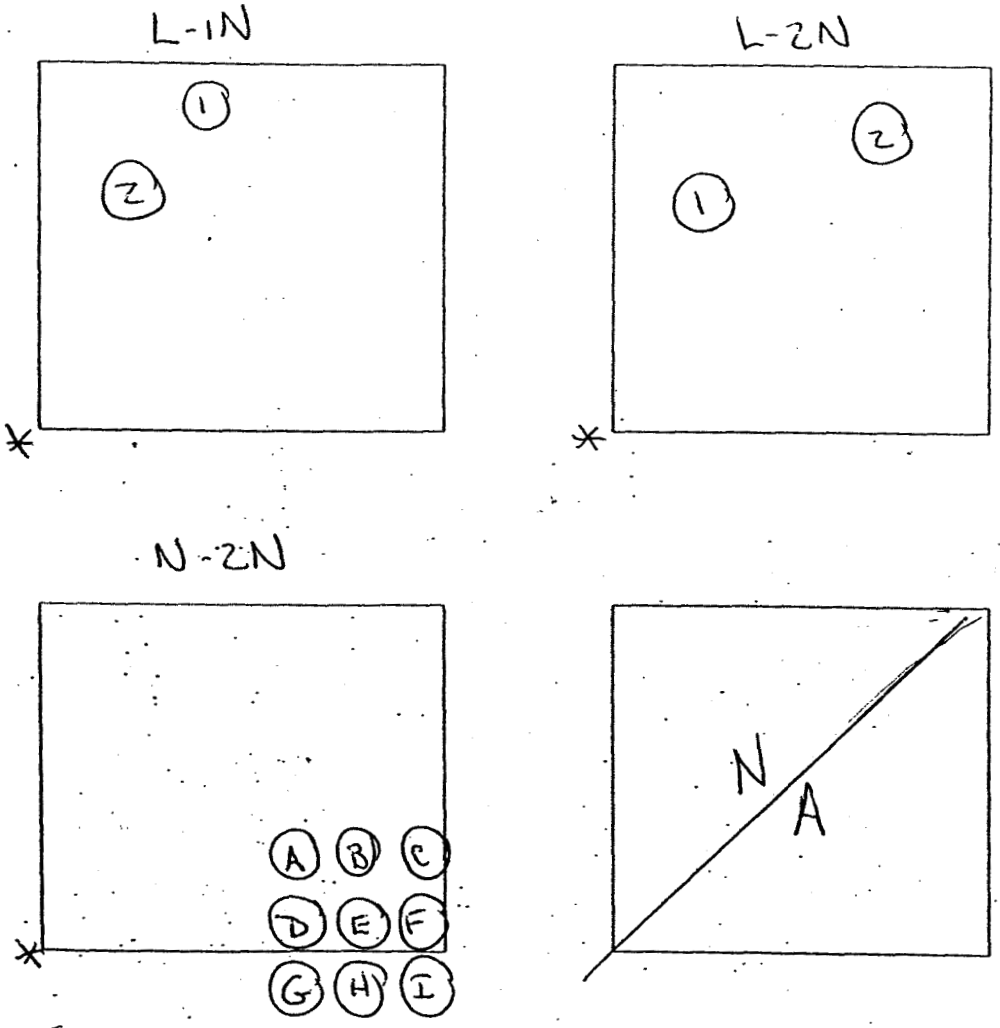
Loc. ID #	*Electra DP-6 Beta*				*Electra DP-6 Alpha*				
	RCT ID #	Inst. ID #	Elevated Audible observed? "Y" or "N"	60-sec PAT (dpm/100cm2)	RCT ID #	Inst. ID #	4-sec Audible observed? "Y" or "N"	30-sec Static (gcpm)	90-sec PAT (dpm/100cm²)
9 POINT ROOF INVESTIGATION									
G-3R1					14	13			182
G-3R2					14	13			154
G-3R3					14	13			170
G-3R4			N		14	13		N	283
G-3R5			A		14	13		A	199
G-3R6					14	13			238
G-3R7					14	13			156
G-3R8					14	13			166
G-3R9					14	13			133
Q.C. SCANS									
K-151	8	13	N		8	13	Y	4	
K-152	8	13	N	N/A	8	13	Y	12	N/A
K-153	8	13	N		8	13	Y	10	
K-154	8	13	N		8	13	Y	8	

Final Survey NE Electra
Scan & Investigation Survey Map

Survey Area: NA	Survey Unit: EXTERIOR	Building: T903A
Survey Unit Description: North Wall ~~TSA~~ SURFACE SCANS TRS-2445 Special		
RCT Initials/Date: [illegible] 3/10/00	RCT Initials/Date: N/A	RCT Initials/Date: N/A

Refer to the Final Survey NE Electra Scan & Investigation Survey Form for instrumentation, surveyor & approval information.

Legend: "R"- Roof, "W" – West Wall, "S" – South Wall, "E" – East Wall, "N" – North Wall "C" –Ceiling, "F" - Floor



*** Designates corner closest to A-1 point of reference** 4 of 5

Results/Comments:

Electra alpha scans were performed at the locations detailed on the survey map(s). All required accessible areas were scanned. All initial scan results were <225 dpm/100cm², unless noted on the survey form.

Electra beta scans were performed in required accessible areas. Initial scan results indicated no detectable activity above background unless noted on the survey form.

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Final Survey NE Electra
Scan & Investigation Survey Form

Survey Area: NA	Survey Unit: Exterior	Building: T903A

Survey Unit Description: North Wall ~~FSA-3~~ SURFACE SCANS 5-24-00 Special

Loc. ID #	Electra DP-6 Beta				Electra DP-6 Alpha				
	RCT ID #	Inst. ID #	Elevated Audible observed? "Y" or "N"	60-sec PAT (dpm/100cm2)	RCT ID #	Inst. ID #	4-sec Audible observed? "Y" or "N"	~~30-sec Static~~ (gcpm) 90 sec STATIC	90-sec PAT (dpm/100cm²)
E-1N1	1	7	N		1	7	Y	26.0	111.5
E-1N2	1	7	N		1	7	Y	24.0	102.0
G-2N1	1	7	N		1	7	Y	27.3	117.8
G-2N2	1	7	N		1	7	Y	24.7	105.3
J-2N1	1	7	N		1	7	Y	29.3	127.3
J-2N2	1	7	N		1	7	Y	24.0	102.0
K-1N1	1	7	N		1	7	Y	24.0	102.0
K-1N2	1	7	N		1	7	Y	19.3	79.5
L-1N1	1	7	N		1	7	Y	30.0	130.7
L-1N2	1	7	N	NA	1	7	Y	22.7	95.7
L-2N1	1	7	N		1	7	Y	22.7	95.7
L-2N2	1	7	N		1	7	Y	20.7	86.2
N-2NA	1	7	N		1	7	Y	22.7	95.7
N-2NB	1	7	N		1	7	Y	24.0	102.0
N-2NC	1	7	N		1	7	Y	18.7	76.6
N-2ND	1	7	N		1	7	Y	(1) 33.3	~~30.6~~ 146.5
N-2NE	1	7	N		1	7	Y	(1) 34.0	149.8
N-2NF	1	7	N		1	7	Y	19.3	79.5
N-2NG	1	7	N		1	7	Y	20.7	86.2
N-2NH	1	7	N		1	7	Y	16.0	63.7
N-2NI	1	7	N		1	7	Y	12.7	47.9
					NA				

AV 9[illegible]

(1) chosen points for this AREA

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Survey Area: N/A | **Survey Unit:** EXTERIOR | **Building:** T903A

Survey Unit Description

ROOF AND WALLS OF TRAILER T903A.(INVESTIGATION).

Total Surface Activity Data Sheet

Sample location	RCT ID #	Inst ID #		Survey count time (sec)		Gross Count (gcpm)		LAB (cpm)		Net counts (cpm)		Net Activity (dpm/100cm2)	
		α	β	α	β	α	β	α	β	α	β	α	β
N3N	1	7	7	90	90	12.7	293	1.3	400	11.4	-107	53.5	-363
N3S	1	7	7	90	90	13.3	324	1.3	400	12.0	-76	56.3	-258
B3E	1	7	7	90	90	6.7	373	1.3	400	5.4	-27	25.4	-92
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
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				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
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				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
				90	90					0.0	0	0.0	0
QC				90	90					0.0	0	0.0	0
QC				90	90					0.0	0	0.0	0
QC				90	90					0.0	0	0.0	0
QC				90	90					0.0	0	0.0	0
QC				90	90					0.0	0	0.0	0

Note: QC measurements are to be collected by a different technician than the original survey. Mark the QC location number in the "Sample Location" column. Material background is assumed to be zero unless otherwise noted. "LAB"~ local area background.

Survey Area: IV/A	Survey Unit: EXTERIOR	Building: T903A
Survey Unit Description ROOF & WALLS OF TRAILER T903A (INVESTIGATION).		

Removable Contamination Data Sheet

Sample location	RCT ID #	Inst ID #		Gross Counts (gcpm)		Net Counts (cpm)		Removeable Activity (dpm/100cm2)	
		α	β	α	β	α	β	α	β
N3N	1	1	2	1	40	0.5	-0.9	1.5	-4
N3S	1	1	2	0	31.5	-0.5	-9.4	-1.5	-38
B3E	1	1	2	0.5	38	0	-2.9	0.0	-12
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
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						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0
						0	0	0.0	0

221

Sample ID: 051000.028.0915 Type: Unknown

Batch ID: unknowns
Acquisition Start: May 10, 2000 09:15:36
Analysis Date: May 10, 2000 13:43:17
Procedure: RFETS unknown
Device: Oasis:01:01
Analysis Method: ROI Analysis
Spectrum File: 00000558.OXS LiveTime: 10,800.00

Calibrations:
Energy = 3.865E+01 +2.790E+00 * Chn Coeff. of Correlation: -0.998
Calibration Date: April 03, 2000 17:45:10 Std: 1:1 energy cal
Shape not Calibrated.
Efficiency = 3.041E-01 ± 4.004E-03
Calibration Date: April 07, 2000 09:49:29 Std: TS4189

External Recovery No Ext.Recovery

Original Sample Amount:
1.000 ± 0.000 samp
Aliquot Amount: 1.000 ± 0.000 samp

ROI DATA

ROI ID #	ASSOCIATED NUCLIDE	EXTENTS START	EXTENTS END	PK EN (keV)	FWHM (keV)
1 Pu239	Po210	2437.5	5342.1	5293.1	2.8
2 Po218	Po218	5550.0	6104.5	5826.0	1.4
3 Po214	Po214	6588.5	7874.7	7229.6	2.8
4 Po212	Po212	8393.8	8808.6	8599.7	1.4

ROI ANALYSIS RESULTS

ROI ID	NET COUNTS	BKG/INTERF	CPM	ROI TYPE
Pu239	33.8 ± 6.3	5.25	0.188 ± 0.035	Unknown
Po218	-0.8 ± 0.4	0.75	-4.17E-03 ± 2.41E-03	Unknown
Po214	0.5 ± 1.1	0.50	2.78E-03 ± 5.89E-03	Unknown
Po212	0.0 ± 0.0	0.00	0.00E+00 ± 0.00E+00	Unknown

NUCLIDE ANALYSIS RESULTS

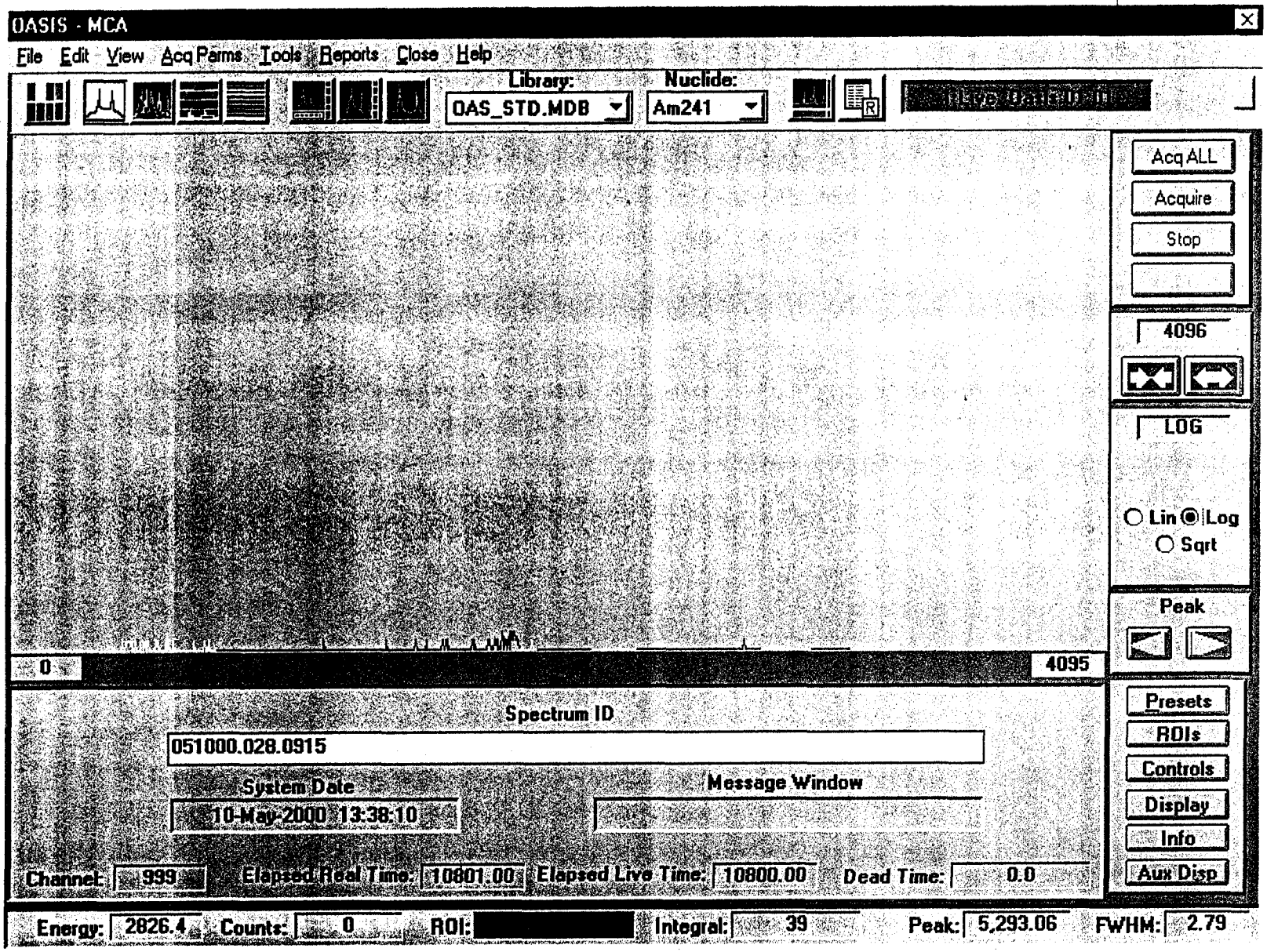
ROI ID	ASSOC NUC	EMM. PROB	ACTIVITY (dpm/samp)	MDA (dpm)
Pu239	Po210	1.000	0.617 ± 0.116	2.03E-01
Po218	Po218	1.000	-1.37E-02 ± 7.91E-03	1.08E-01
Po214	Po214	1.000	9.14E-03 ± 0.019	9.70E-02
Po212	Po212	1.000	0.00E+00 ± 0.00E+00	4.94E-02

Activity reported as of May 10, 2000 09:15:36

ANALYSIS REVIEWED BY: Thowaldson

APPROVED BY: C J Buancorsi 5/10/00

222


OASIS - MCA
File Edit View Acq Parms Tools Reports Close Help
Library:
OAS_STD.MDB
Nuclide:
Am241
Acq ALL
Acquire
Stop
4096
LOG
Lin Log
Sqrt
Peak
0
4095
Presets
ROIs
Controls
Display
Info
Aux Disp
Spectrum ID
051000.028.0915
System Date
10-May-2000 13:38:10
Message Window
Channel: 999
Elapsed Real Time: 10801.00
Elapsed Live Time: 10800.00
Dead Time: 0.0
Energy: 2826.4
Counts: 0
ROI:
Integral: 39
Peak: 5,293.06
FWHM: 2.79

[redacted]mple ID: 00A1148-029.001 Type: Unknown

Batch ID: unknowns
Acquisition Start: April 26, 2000 15:40:12
Analysis Date: April 27, 2000 06:47:16
Procedure: Po210 count
Device: Oasis:01:03
Analysis Method: ROI Analysis
Spectrum File: 00000509.OXS LiveTime: 28,800.00

Calibrations:
Energy = 6.596E+01 +2.779E+00 * Chn Coeff. of Correlation: -0.998
Calibration Date: April 24, 2000 13:03:27 Std: 1:3 Energy Cal
Shape not Calibrated.
Efficiency = 3.120E-01 ± 4.098E-03
Calibration Date: April 24, 2000 10:05:48 Std: TS4189

External Recovery No Ext.Recovery

Original Sample Amount: 1.000 ± 0.000 samp
Aliquot Amount: 1.000 ± 0.000 samp

ROI DATA

ROI ID #	ASSOCIATED NUCLIDE	EXTENTS START	EXTENTS END	PK EN (keV)	FWHM (keV)
1 Po218	Po218	5550.0	6104.5	5827.5	2.8
2 Po214	Po214	6588.5	7874.7	7231.0	2.8
[redacted]3 Po212	Po212	8393.8	8808.6	8601.2	1.4
[redacted]4 Po210	Po210	2180.3	5343.3	5282.7	21.7

ROI ANALYSIS RESULTS

ROI ID	NET COUNTS	BKG/INTERF	CPM	ROI TYPE
Po218	1.3 ± 1.6	0.68	2.74E-03 ± 3.27E-03	Unknown
Po214	1.3 ± 1.6	0.68	2.74E-03 ± 3.27E-03	Unknown
Po212	-1.4 ± 1.0	1.37	-2.85E-03 ± 2.01E-03	Unknown
Po210	429.9 ± 21.5	19.13	0.896 ± 0.045	Unknown

NUCLIDE ANALYSIS RESULTS

ROI ID	ASSOC NUC	EMM. PROB	ACTIVITY (dpm/samp)	MDA (dpm)
Po218	Po218	1.000	8.79E-03 ± 0.010	4.16E-02
Po214	Po214	1.000	8.79E-03 ± 0.010	4.16E-02
Po212	Po212	1.000	-9.13E-03 ± 6.45E-03	5.14E-02
Po210	Po210	1.000	2.870 ± 0.148	1.43E-01

Activity reported as of April 26, 2000 15:40:12

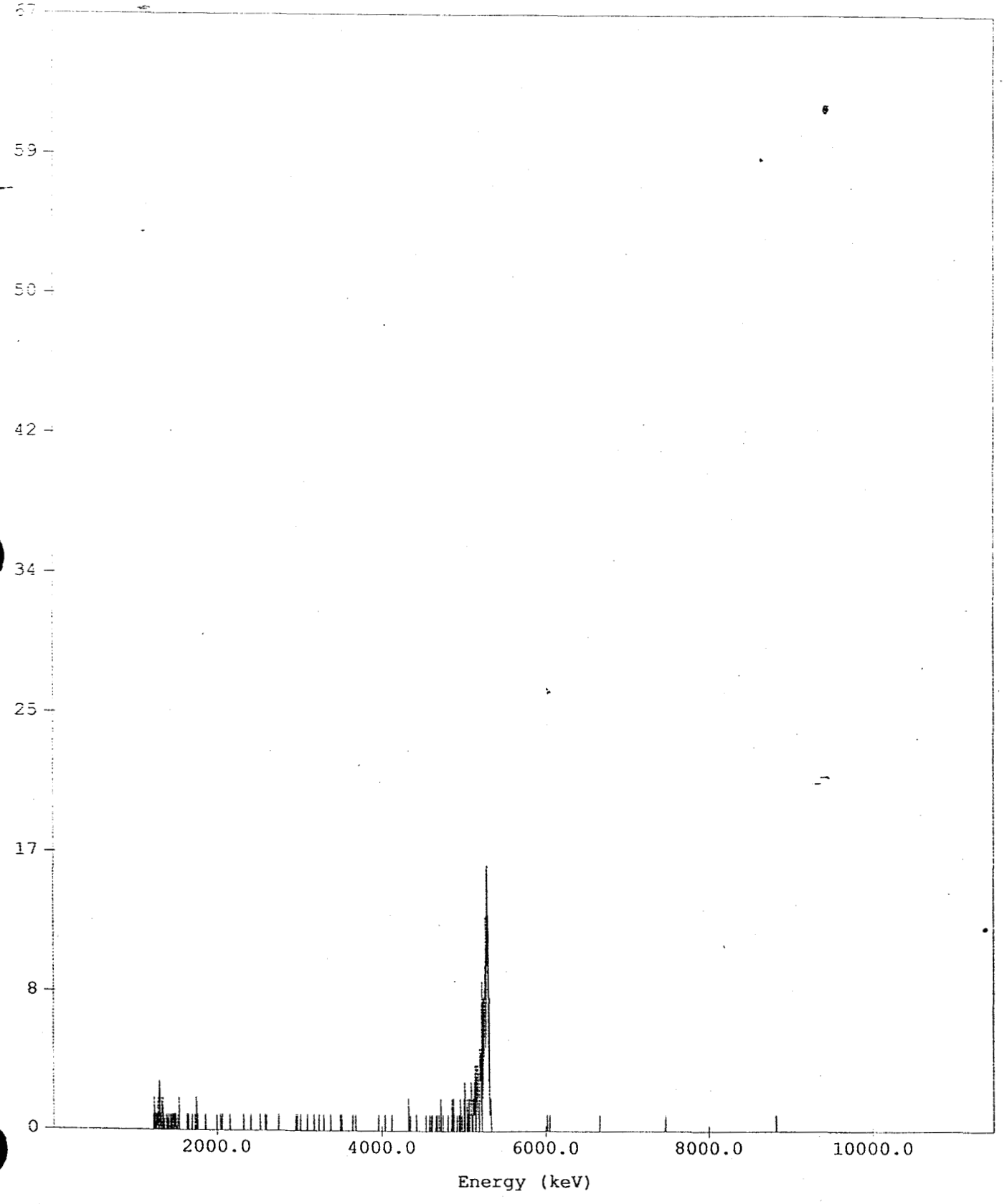
ANALYSIS REVIEWED BY: [signature]

APPROVED BY: [signature]

Spike value: 22.980 dpm pu239

224

ile(3): 00000509.OXS Date: 26-Apr-2000 15:40:12 LT: 28,840.61 RT: 28,840.62
D(3): 00A1148-029.001



225

Sample ID: 00A1148-030.001 **Type:** Unknown

Batch ID: unknowns
Acquisition Start: April 26, 2000 14:27:25
Analysis Date: April 27, 2000 06:47:13
Procedure: Po210 count
Device: Oasis:01:01
Analysis Method: ROI Analysis
Spectrum File: 00000508.OXS LiveTime: 28,800.00

Calibrations:
Energy = 3.865E+01 +2.790E+00 * Chn Coeff. of Correlation: -0.998
Calibration Date: April 03, 2000 17:45:10 Std: 1:1 energy cal
Shape not Calibrated.
Efficiency = 3.041E-01 ± 4.004E-03
Calibration Date: April 07, 2000 09:49:29 Std: TS4189

External Recovery No Ext.Recovery

Original Sample Amount: 1.000 ± 0.000 samp
Aliquot Amount: 1.000 ± 0.000 samp

ROI DATA

ROI ID #	ASSOCIATED NUCLIDE	EXTENTS START	EXTENTS END	PK EN (keV)	FWHM (keV)
1 Po218	Po218	5550.0	6104.5	5826.0	2.8
2 Po214	Po214	6588.5	7874.7	7229.6	2.8
3 Po212	Po212	8393.8	8808.6	8599.7	2.8
4 Po210	Po210	2180.3	5343.3	5304.2	9.5

ROI ANALYSIS RESULTS

ROI ID	NET COUNTS	BKG/INTERF	CPM	ROI TYPE
Po218	3.3 ± 2.1	0.69	6.90E-03 ± 4.40E-03	Unknown
Po214	0.6 ± 1.7	1.37	1.31E-03 ± 3.57E-03	Unknown
Po212	1.0 ± 1.0	0.00	2.08E-03 ± 2.08E-03	Unknown
Po210	449.2 ± 21.9	17.83	0.936 ± 0.046	Unknown

NUCLIDE ANALYSIS RESULTS

ROI ID	ASSOC NUC	EMM. PROB	ACTIVITY (dpm/samp)	MDA (dpm)
Po218	Po218	1.000	0.023 ± 0.014	4.28E-02
Po214	Po214	1.000	4.31E-03 ± 0.012	5.28E-02
Po212	Po212	1.000	6.85E-03 ± 6.85E-03	1.85E-02
Po210	Po210	1.000	3.078 ± 0.155	1.42E-01

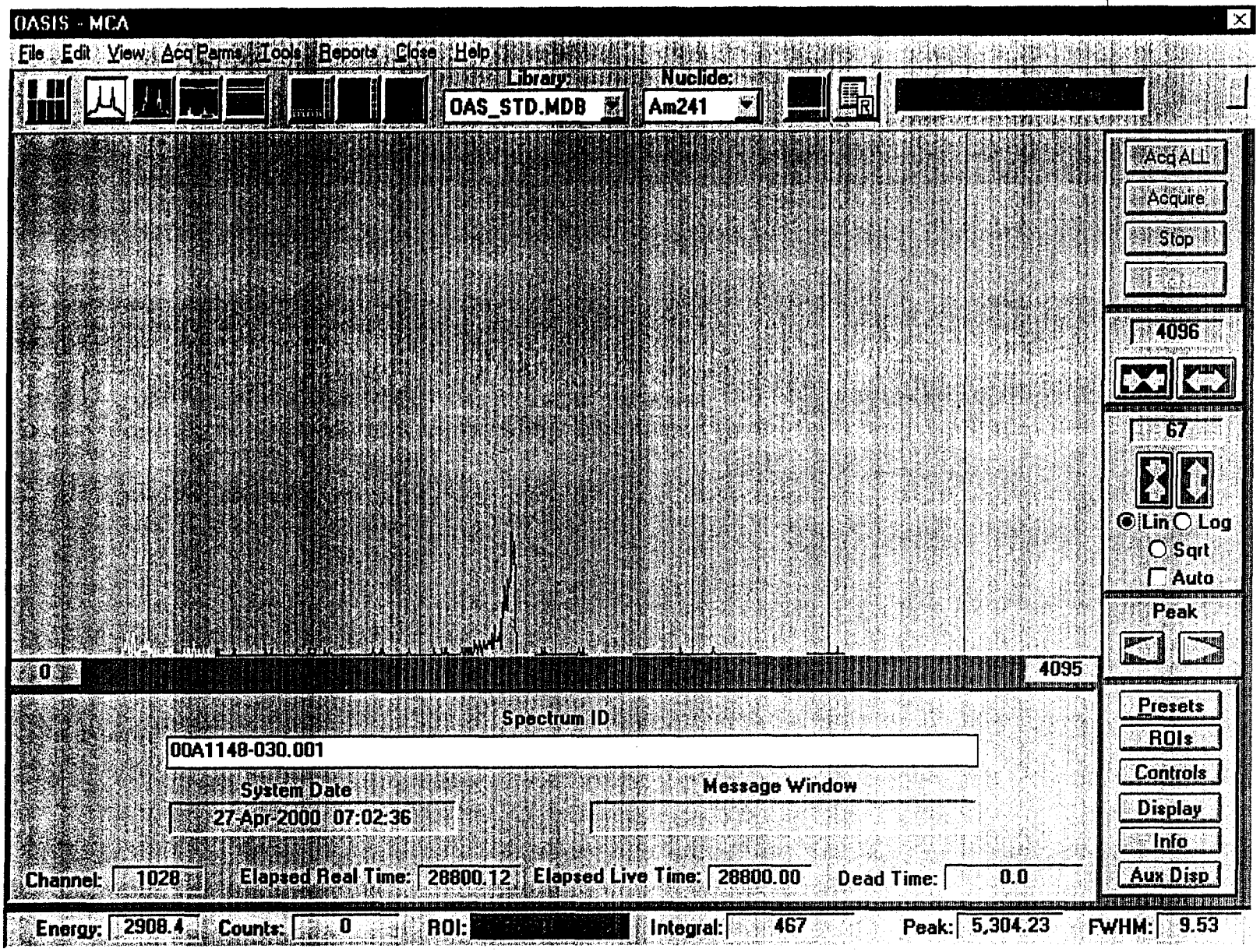
Activity reported as of April 26, 2000 14:27:25

ANALYSIS REVIEWED BY: [signature]

APPROVED BY: CJ Bianconi 5/9/00

Spike activity: 22.892 dpm pu 239

224


OASIS - MCA
File Edit View Acq Parms Tools Reports Close Help
Library:
OAS_STD.MDB
Nuclide:
Am241
Acq ALL
Acquire
Stop
4096
67
Lin Log
Sqrt
Auto
Peak
0
4095
Spectrum ID
00A1148-030.001
System Date
27-Apr-2000 07:02:36
Message Window
Presets
ROIs
Controls
Display
Info
Aux Disp
Channel: 1028
Elapsed Real Time: 28800.12
Elapsed Live Time: 28800.00
Dead Time: 0.0
Energy: 2908.4
Counts: 0
ROI:
Integral: 467
Peak: 5,304.23
FWHM: 9.53

227

Sample ID: 051000.031.0920 **Type:** Unknown

Batch ID: unknowns
Acquisition Start: May 10, 2000 09:17:44
Analysis Date: May 10, 2000 13:48:31
Procedure: RFETS unknown
Device: Oasis:01:02
Analysis Method: ROI Analysis
Spectrum File: 00000559.OXS LiveTime: 10,800.00

Calibrations:
Energy = 5.823E+01 +2.790E+00 * Chn Coeff. of Correlation: -0.998
Calibration Date: April 07, 2000 14:55:56 Std: 1:2 energy cal
Shape not Calibrated.
Efficiency = 3.089E-01 ± 4.062E-03
Calibration Date: April 07, 2000 15:15:30 Std: TS4189

External Recovery No Ext.Recovery

Original Sample Amount: 1.000 ± 0.000 samp
Aliquot Amount: 1.000 ± 0.000 samp

ROI DATA

ROI #	ID	ASSOCIATED NUCLIDE	EXTENTS START	EXTENTS END	PK EN (keV)	FWHM (keV)
1	Pu239	Po210	2437.5	5311.4	4534.1	6.5
2	Po218	Po218	5550.0	6104.5	5826.0	1.4
3	Po214	Po214	6588.5	7874.7	7229.6	2.8
4	Po212	Po212	8393.8	8808.6	8599.7	1.4

ROI ANALYSIS RESULTS

ROI ID	NET COUNTS	BKG/INTERF	CPM	ROI TYPE
Pu239	574.5 ± 24.1	6.50	3.192 ± 0.134	Unknown
Po218	0.0 ± 0.0	0.00	0.00E+00 ± 0.00E+00	Unknown
Po214	1.8 ± 1.4	0.25	9.72E-03 ± 7.98E-03	Unknown
Po212	-0.3 ± 0.3	0.25	-1.39E-03 ± 1.39E-03	Unknown

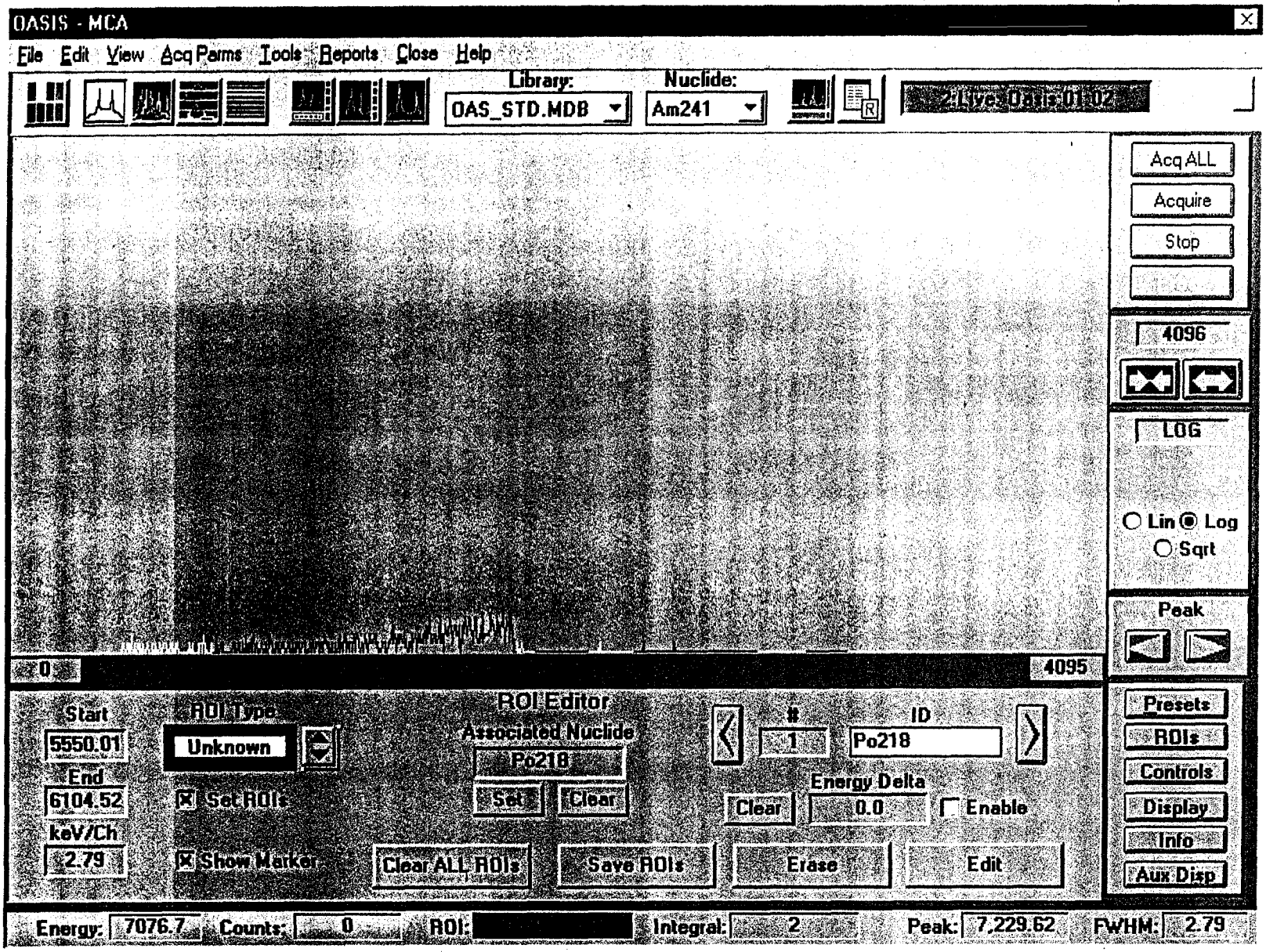
NUCLIDE ANALYSIS RESULTS

ROI ID	ASSOC NUC	EMM. PROB	ACTIVITY (dpm/samp)	MDA (dpm)
Pu239	Po210	1.000	10.331 ± 0.455	2.17E-01
Po218	Po218	1.000	0.00E+00 ± 0.00E+00	4.87E-02
Po214	Po214	1.000	0.031 ± 0.026	8.17E-02
Po212	Po212	1.000	-4.50E-03 ± 4.50E-03	8.17E-02

Activity reported as of May 10, 2000 09:17:44

ANALYSIS REVIEWED BY: [signature]

APPROVED BY: C J Bianco 5/10/00


OASIS - MCA
File Edit View Acq Parms Tools Reports Close Help
Library:
OAS_STD.MDB
Nuclide:
Am241
Acq ALL
Acquire
Stop
4096
LOG
Lin Log
Sqrt
Peak
0
4095
ROI Editor
Start
5550.01
End
6104.52
keV/Ch
2.79
ROI Type
Unknown
Set ROIs
Show Marker
Associated Nuclide
Po218
Set
Clear
#
1
ID
Po218
Energy Delta
Clear
0.0
Enable
Clear ALL ROIs
Save ROIs
Erase
Edit
Presets
ROIs
Controls
Display
Info
Aux Disp
Energy: 7076.7
Counts: 0
ROI:
Integral: 2
Peak: 7,229.62
FWHM: 2.79

Sample ID: **00A1148-032.001** **Type:** **Unknown**

Batch ID: unknowns
Acquisition Start: April 26, 2000 06:59:10
Analysis Date: April 26, 2000 09:59:26
Procedure: Po210 count
Device: Oasis:01:04
Analysis Method: ROI Analysis
Spectrum File: 00000495.OXS LiveTime: 10,800.00

Calibrations:
Energy = 8.600E+01 +2.746E+00 * Chn Coeff. of Correlation: -0.998
Calibration Date: April 12, 2000 10:28:56 Std: 1:4 energy cal
Shape not Calibrated.
Efficiency = 3.084E-01 ± 4.055E-03
Calibration Date: April 12, 2000 11:45:10 Std: TS4189

External Recovery No Ext.Recovery

Original Sample Amount:
1.000 ± 0.000 samp
Aliquot Amount: 1.000 ± 0.000 samp

ROI DATA

ROI ID #	ASSOCIATED NUCLIDE	EXTENTS START	EXTENTS END	PK EN (keV)	FWHM (keV)
1 Po218	Po218	5550.0	6104.5	5826.2	1.4
2 Po214	Po214	6588.5	7874.7	7232.4	2.7
3 Po212	Po212	8393.8	8808.6	8600.1	2.7
4 Po210	Po210	2180.3	5343.3	4661.7	3.4

ROI ANALYSIS RESULTS

ROI ID	NET COUNTS	BKG/INTERF	CPM	ROI TYPE
Po218	-0.8 ± 0.4	0.76	-4.25E-03 ± 2.45E-03	Unknown
Po214	0.7 ± 1.0	0.25	4.14E-03 ± 5.73E-03	Unknown
Po212	0.5 ± 1.1	0.51	2.73E-03 ± 5.91E-03	Unknown
Po210	183.7 ± 13.8	4.33	1.020 ± 0.076	Unknown

NUCLIDE ANALYSIS RESULTS

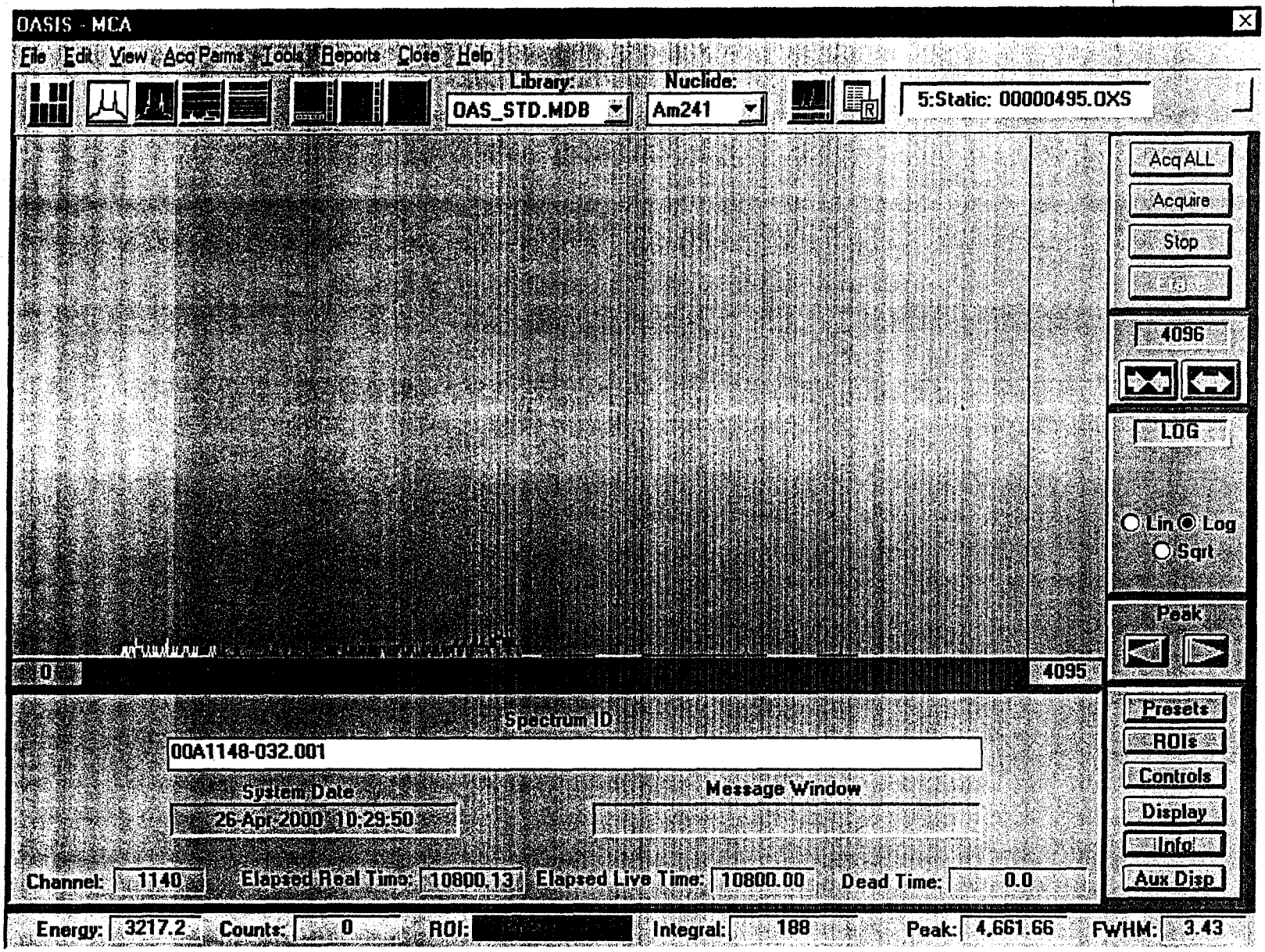
ROI ID	ASSOC NUC	EMM. PROB	ACTIVITY (dpm/samp)	MDA (dpm)
Po218	Po218	1.000	-1.38E-02 ± 7.95E-03	1.07E-01
Po214	Po214	1.000	0.013 ± 0.019	8.23E-02
Po212	Po212	1.000	8.84E-03 ± 0.019	9.61E-02
Po210	Po210	1.000	3.309 ± 0.252	1.87E-01

Activity reported as of April 26, 2000 06:59:10

ANALYSIS REVIEWED BY: _____

APPROVED BY: C J Biancani 5/9/00

230


OASIS - MCA
File Edit View Acq Parms Tools Reports Close Help
Library:
OAS_STD.MDB
Nuclide:
Am241
5:Static: 00000495.0XS
Acq ALL
Acquire
Stop
4096
LOG
Lin Log
Sqrt
Peak
0
4095
Spectrum ID
00A1148-032.001
System Date
26-Apr-2000 10:29:50
Message Window
Presets
ROIs
Controls
Display
Info
Aux Disp
Channel: 1140
Elapsed Real Time: 10800.13
Elapsed Live Time: 10800.00
Dead Time: 0.0
Energy: 3217.2
Counts: 0
ROI:
Integral: 188
Peak: 4,661.66
FWHM: 3.43

231

Sample ID: 00A1148-033.001 Type: Unknown

Batch ID: unknowns
Acquisition Start: April 26, 2000 14:11:48
Analysis Date: April 27, 2000 06:47:15
Procedure: Po210 count
Device: Oasis:01:02
Analysis Method: ROI Analysis
Spectrum File: 00000506.OXS LiveTime: 28,800.00

Calibrations:
Energy = 5.823E+01 +2.790E+00 * Chn Coeff. of Correlation: -0.998
Calibration Date: April 07, 2000 14:55:56 Std: 1:2 energy cal
Shape not Calibrated.
Efficiency = 3.089E-01 ± 4.062E-03
Calibration Date: April 07, 2000 15:15:30 Std: TS4189

External Recovery No Ext.Recovery

Original Sample Amount:
1.000 ± 0.000 samp
Aliquot Amount: 1.000 ± 0.000 samp

ROI DATA

ROI ID #	ASSOCIATED NUCLIDE	EXTENTS START	EXTENTS END	PK EN (keV)	FWHM (keV)
1 Po218	Po218	5550.0	6104.5	5826.0	2.8
2 Po214	Po214	6588.5	7874.7	7229.6	2.8
3 Po212	Po212	8393.8	8808.6	8599.7	2.8
4 Po210	Po210	2180.3	5343.3	4933.1	3.9

ROI ANALYSIS RESULTS

ROI ID	NET COUNTS	BKG/INTERF	CPM	ROI TYPE
Po218	16.0 ± 4.0	0.00	0.033 ± 8.33E-03	Unknown
Po214	10.3 ± 3.4	0.68	0.021 ± 7.06E-03	Unknown
Po212	12.0 ± 3.5	0.00	0.025 ± 7.22E-03	Unknown
Po210	898.7 ± 30.3	12.31	1.872 ± 0.063	Unknown

NUCLIDE ANALYSIS RESULTS

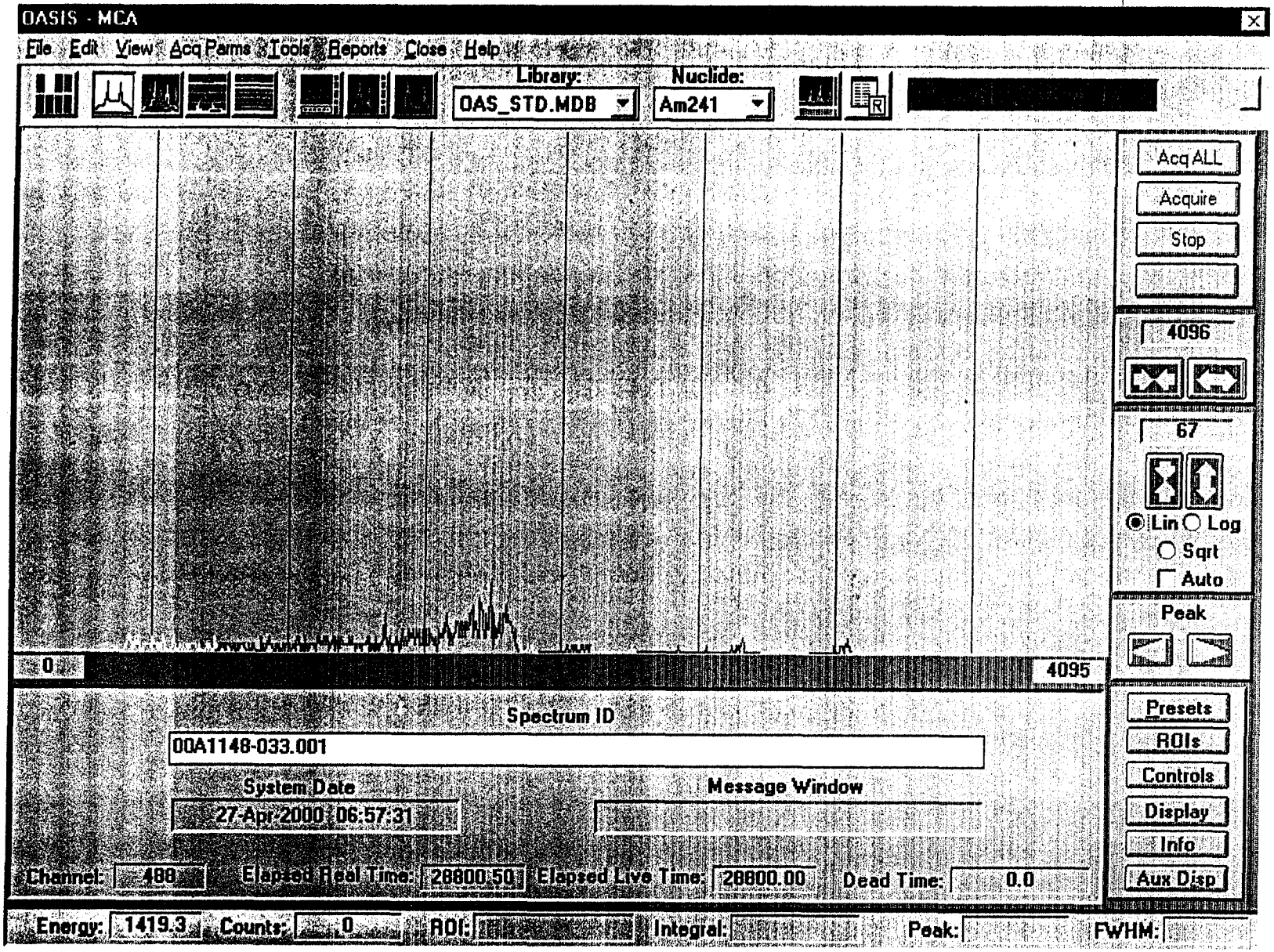
ROI ID	ASSOC NUC	EMM. PROB	ACTIVITY (dpm/samp)	MDA (dpm)
Po218	Po218	1.000	0.108 ± 0.027	1.82E-02
Po214	Po214	1.000	0.070 ± 0.023	4.21E-02
Po212	Po212	1.000	0.081 ± 0.023	1.82E-02
Po210	Po210	1.000	6.060 ± 0.219	1.19E-01

Activity reported as of April 26, 2000 14:11:48

ANALYSIS REVIEWED BY: _____

APPROVED BY: _____

232


OASIS - MCA
File Edit View Acq Parms Tools Reports Close Help
Library:
OAS_STD.MDB
Nuclide:
Am241
Acq ALL
Acquire
Stop
4096
67
Lin Log
Sqrt
Auto
Peak
0
4095
Spectrum ID
00A1148-033.001
System Date
27-Apr-2000 06:57:31
Message Window
Presets
ROIs
Controls
Display
Info
Aux Disp
Channel: 488
Elapsed Real Time: 28800.50
Elapsed Live Time: 28800.00
Dead Time: 0.0
Energy: 1419.3
Counts: 0
ROI:
Integral:
Peak:
FWHM:

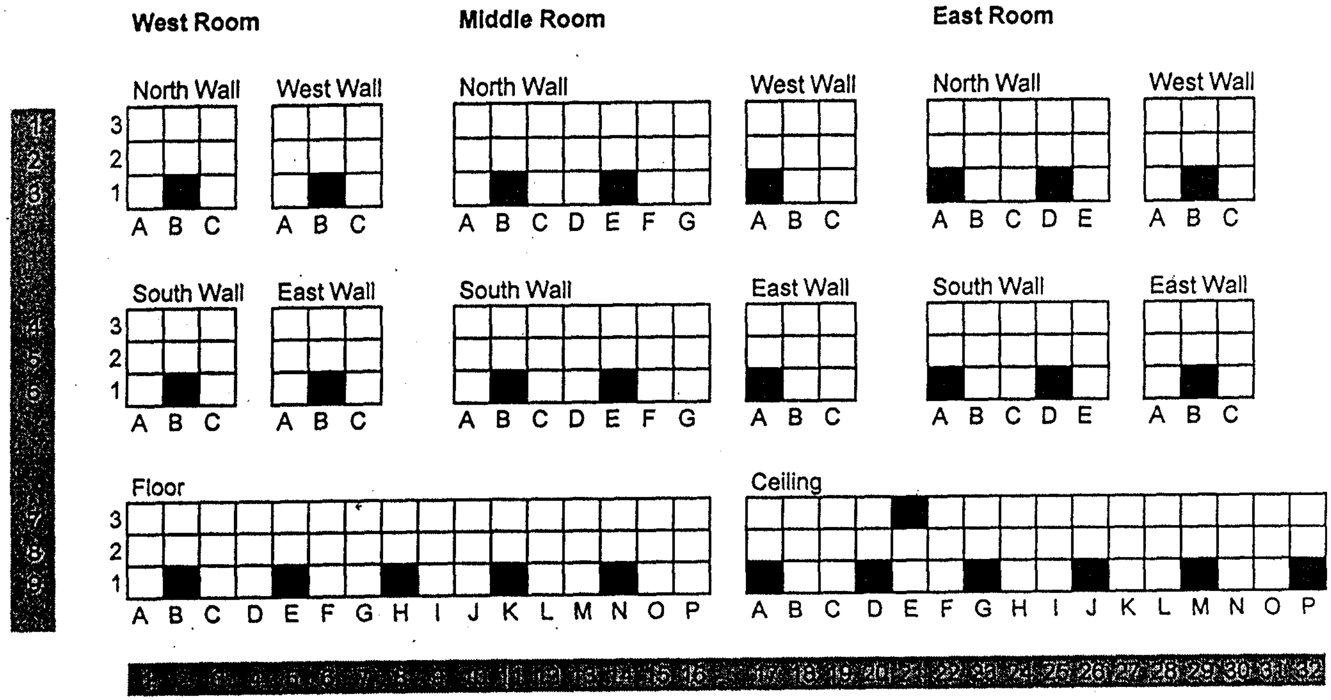
033

G-2

T903A – Radiological Survey Data for Interior Survey Unit

- Map of Locations
  - Scans
  - Surveys
- Removable and Total Survey Results - Detail

T903A Interior



X-Coordinate	Y-Coordinate
23	3

	X	Y
Random Starting Point =	11	6
Randomly Generated Point =	21	7

☐ = one square meter

■ = direct & swipe

Total Surface Area = 240 m^2

10% Scan Surface Area = 24 m^2

+ SCANS

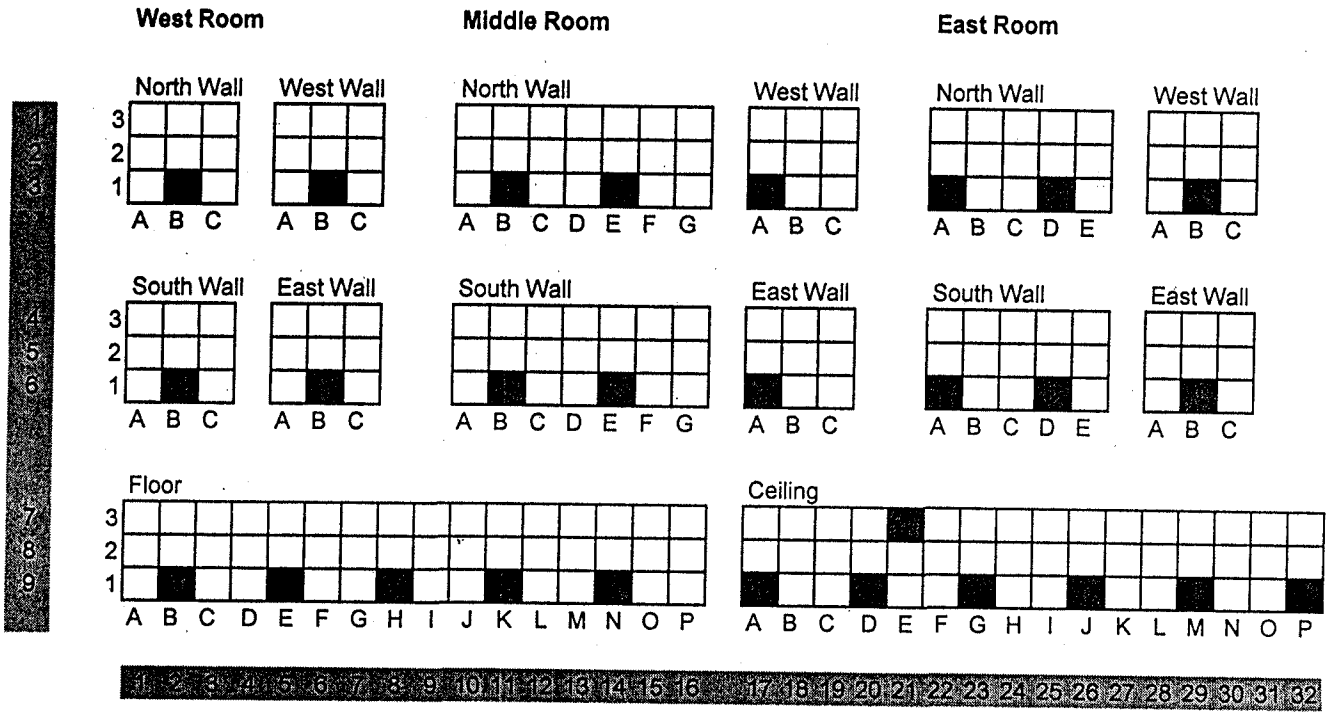
U-3 0-5 0.4

40-3 38-3 40.2

112 of 212

235

T903A Interior



X-Coordinate	Y-Coordinate
23	3

	X	Y
Random Starting Point =	11	6
Randomly Generated Point =	21	7

□ = one square meter

■ = direct & swipe

Total Surface Area = 240 m^2

10% Scan Surface Area = 24 m^2

112 of 212

036

Survey Area: N/A	Survey Unit: INTERIOR	Building: T903A
Survey Unit Description: INTERIOR		

Total Surface Activity Data Sheet

Sample location	RCT ID #	Inst ID #		Survey count time (sec)		LAB (cpm)		Gross Count (gcpm)		Net counts (cpm)		Net Activity (dpm/100cm2)		
		α	β	α	β	α	β	α	β	α	β	α	β	
WEST Room				90	90									
B-IN	2	7	7	90	90	2.0	331	2.7	287	0.7	-44	3.2	-141.7	
B-IW	2	7	7	90	90	2.7	287	4.7	281	2.0	-6	9.2	-19.3	
B-IS	2	7	7	90	90	2.0	361	3.3	261	1.3	-100	6.0	-322.0	
B-IE	2	7	7	90	90	3.3	337	2.0	267	-1.3	-72	-6.0	-231.8	
Middle Room				90	90									
B-IN	2	7	7	90	90	.07	349	4.0	281	3.3	-68	15.1	-218.9	
E-IN	2	7	7	90	90	1.3	359	3.3	251	2.0	-108	9.2	-347.7	
A-IW	2	7	7	90	90	3.3	373	4.0	232	0.7	-141	3.2	-454.0	
B-IS	2	7	7	90	90	3.3	355	6.7	291	3.4	-64	15.6	-206.1	
E-IS	2	7	7	90	90	3.3	367	3.3	285	0	-82	0	-264.0	
A-IE	2	7	7	90	90	4.0	317	5.3	266	1.3	-51	6.0	-164.2	
EAST ROOM				90	90									
A-IN	2	7	7	90	90	1.3	376	5.3	319	4.0	-57	18.3	~~-781.0~~	-18
D-IN	2	7	7	90	90	1.3	359	8.0	311	6.7	-48	30.7	~~-155.0~~	-15
B-IW	2	7	7	90	90	1.3	329	9.3	269	8.0	-60	36.7	-193.2	
A-IS	2	7	7	90	90	5.3	385	2.7	293	-2.6	-92	-11.9	-296.2	
D-IS	2	7	7	90	90	2.7	346	5.3	279	2.6	-67	11.9	-216.0	-215
B-IE	2	7	7	90	90	1.3	363	3.3	285	2.0	-78	9.2	-251.1	
				90	90									
				90	90									
				90	90									
				90	90									
				90	90									
				90	90									
				90	90									
				90	90									
				90	90									
B-IN QC	8	9	9	90	90	2.0	297	4.0	301	2.0	4.0	9.6	13.9	
B-IW QC	8	9	9	90	90	2.7	360	2.7	326	0	-34	0	-118.5	
B-IN QC	8	9	9	90	90	1.3	326	3.3	366	2.0	40	9.6	139.5	
B-IN QC	8	9	9	90	90	2.7	317	3.3	288	0.6	-29	2.9	-101.1	
B-IN QC	8	9	9	90	90	2.7	306	6.0	287	3.3	-19	15.8	-66.2	

Note: QC measurements are to be collected by a different technician than the original survey. Mark the QC location number in the "Sample Location" column. Material background is assumed to be zero unless otherwise noted. "LAB" ~ local area background.

257

Survey Area: NA	Survey Unit: INTERIOR	Building: T 903 A
Survey Unit Description: INTERIOR		

Total Surface Activity Data Sheet

Sample location	RCT ID #	Inst ID #		Survey count time (sec)		LAB (cpm)		Gross Count (gcpm)		Net counts (cpm)		Net Activity (dpm/100cm2)		
		α	β	α	β	α	β	α	β	α	β	α	β	
B-1F	1	8	8	90	90	2.0	375	4.7	400	2.7	25	13.2	84.2	
E-1F	1	8	8	90	90	4.0	399	4.0	350	0	-49	0	-165.0	
H-1F	1	8	8	90	90	4.0	403	4.0	392	6	-11	0	-37.0	
K-1F	1	8	8	90	90	4.7	400	6.0	428	1.3	28	6.4	94.3	
N-1F	1	8	8	90	90	3.3	382	8.0	417	4.7	35	23.0	117.8	
A-1C	1	8	8	90	90	4.0	389	4.7	372	0.7	-17	3.4	-57.0	-5
D-1C	1	8	8	90	90	2.0	360	3.3	403	1.3	43	6.4	145.0	-1
E-3C	1	8	8	90	90	6.0	399	2.0	369	-4	-30	-19.6	-101.0	
G-1C	1	8	8	90	90	0.7	378	2.7	423	2	45	9.8	151.5	
J-1C	1	8	8	90	90	3.3	342	0.7	406	-2.6	64	-12.7	215.5	
M-1C	1	8	8	90	90	2.7	365	2.7	392	0	27	0	90.9	
~~P-1C~~	1	8	8	90	90	4.0	394	4.0	396	0	2	0	6.7	
				90	90									
				90	90									
				90	90									
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QC				90	90									
QC				90	90									
QC				90	90									
QC				90	90									
QC				90	90									

N

Note: QC measurements are to be collected by a different technician than the original survey. Mark the QC location number in the "Sample Location" column. Material background is assumed to be zero unless otherwise noted. "LAB" ~ local area background.

Survey Area: N/A	Survey Unit: INTERIOR	Building: T903A
Survey Unit Description: FLOORS, WALLS, + CEILING OF TRAILER T903A.		

Removable Contamination Data Sheet

Sample Location	RCT ID #	Inst ID #		Gross Counts (gcpm)		Net Counts (cpm)		Removable Activity (dpm/100cm2)	
		α	β	α	β	α	β	α	β
WEST ROOM									
B-1N	3	1	4	0	48.5	-0.3	8.2	-0.9	32.8
B-1W	3	2	5	0.5	39.5	0	1.2	0	4.8
B-1S	3	3	6	1	41	0.6	0.8	1.8	3.2
B-1E	3	1	4	1	45.5	0.7	5.2	2.1	20.8
MIDDLE ROOM									
B-1N	3	2	5	0	37.5	-0.5	-0.8	-1.5	-3.2
E-1N	3	3	6	1	46	0.6	5.8	1.8	23.2
A-1W	3	1	4	0	38.5	-0.3	-1.8	-0.9	-7.2
B-1S	3	2	5	0	33	-0.5	-5.3	-1.5	-21.2
E-1S	3	3	6	0.5	42	0.1	1.8	0.3	7.2
A-1E	3	1	4	0	40	-0.3	-0.3	-0.9	-1.2
EAST ROOM									
A-1N	3	2	5	0	42.5	-0.5	~~4.5~~ 7.2	-1.5	~~16.8~~ 17.2 16.8
D-1N	3	3	6	0.5	41.5	0.1	1.3	0.3	5.2
B-1W	3	1	4	1.5	40	1.2	-0.3	3.6	-1.2
A-1S	3	2	5	0.5	38.5	0	0.2	0	0.8
D-1S	3	3	6	0	45	-0.4	4.8	-1.2	19.2
B-1E	3	1	4	0	35.5	-0.3	-4.8	-0.9	-19.2
FLOOR									
B-1F	3	2	5	0	34.5	-0.5 ~~0.0~~	-3.8	-1.5 ~~0.0~~	-15.2
E-1F	3	3	6	1	40	~~0.1~~ 0.6	-0.2	~~1.5~~ 1.8	-0.8
A-1F	3	1	4	0.5	46	0.2	5.7	0.6	22.8
K-1F	3	2	5	0	38.5	-0.5	0.2	-1.5	0.8
N-1F	3	3	6	1.5	41.5	1.1	1.3	3.3	5.2
CEILING									
A-1C	3	1	4	0.5	27.5	0.2	-12.8	0.6	-51.2
D-1C	3	2	5	1	33	0.5	-5.3	1.5	-21.2
E-3C	3	3	6	1.5	49	1.1	8.8	3.3	35.2
G-1C	3	1	4	0.5	~~3~~ 44.5	0.2	4.2	0.6	16.8
J-1C	3	2	5	0.5	36	0	-2.3	0	-9.2
M-1C	3	3	6	0.5	40.5	0.1	0.3	0.3	1.2
P-1C	3	1	4	1.5	35.5	1.2	-4.8	3.6	-19.2

239

Survey Area: NA	Survey Unit: INTERIOR	Building: T903A
Survey Unit Description: FLOOR, BELOW CARPET		

Total Surface Activity Data Sheet

Sample location	RCT ID #	Inst ID #		Survey count time (sec)		LAB (cpm)		Gross Count (gcpm)		Net counts (cpm)		Net Activity (dpm/100cm2)	
		α	β	α	β	α	β	α	β	α	β	α	β
E-1F	1	7	7	90	90	0.7	346	6.0	355	5.3	9	25.4	31.4
K-1F	1	7	7	90	90	1.3	307	4.0	330	2.7	23	12.9	80.2
N-1F	1	7	7	90	90	2.0	321	5.0	503	3.0	182	14.4	~~50.2~~ [illegible]
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				90	90								
				90	90								
				90	90								
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				90	90								
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				90	90								
				90	90								
___QC				90	90								
___QC				90	90								
___QC				90	90								
___QC				90	90								
___QC				90	90								

N/A

Note: QC measurements are to be collected by a different technician than the original survey. Mark the QC location number in the "Sample Location" column. Material background is assumed to be zero unless otherwise noted. "LAB" ~ local area background.

Survey Area: NA	Survey Unit: INTERIOR	Building: T903A
Survey Unit Description	FLOOR, UNDER CARPET	

Removable Contamination Data Sheet

Sample Location	RCT ID #	Inst ID #		Gross Counts (gcpm)		Net Counts (cpm)		Removable Activity (dpm/100cm2)	
		α	β	α	β	α	β	α	β
E-1F	1	1	2	0.5	86	0.0	45.1	0.0	180.4
K-1F	1	1	2	0.0	84	-0.5	43.1	-1.5	172.4
N-1F	1	1	2	0.0	80	-0.5	39.1	-1.5	156.4

N/A

241

Luker, Steve
From: Salmans, Michael
Sent: Tuesday, June 13, 2000 3:04 PM
To: Luker, Steve
Subject: FW: 00A1148

Mike Salmans
Analytical Services
Phone # 303-966-5057
Pager # 303-212-3149
Fax # 303-966-3578

-----Original Message-----

From: **Lee Heath [SMTP:lmh@mail.gel.com]**
Sent: Tuesday, June 13, 2000 2:26 PM
To: Michael Salmans
Subject: 00A1148

The 100% size of these circular disks of metal and rubber were:

(1-4 in order)
0.7182 g
1.8692 g
2.1784 g
0.7303 g (rubber)

G-3

T903A – Asbestos Inspector's Report

T903A

ASBESTOS INSPECTOR'S REPORT

I, the undersigned Certified Asbestos Inspector, certification # 1387 in the state of Colorado, attest to the asbestos inspection and sampling results as described below, for the following facility (at RFETS): Trailer 903A.

General Facility Location: North Buffer Zone; South of existing firing range.

INSPECTION RESULTS

Trailer 903A contains two different types of floor tile. Fiberglass insulation was found throughout the walls. The following table summarizes the results of the samples collected and the percent and type of asbestos detected:

SAMPLE RESULTS

Sample Number	Material Sampled & Location	Analytical Results
T903A-03012000-05-007	12" X 12" White floor tile with tan mastic	None Detected
T903A-03012000-05-008	12" x 12" White floor tile with tan mastic	None Detected
T903A-03012000-05-009	Green sheet tile with brown mastic	None Detected
T903A-03012000-05-010	Green sheet tile with brown mastic	None Detected

Andre Gonzalez — INSPECTOR'S NAME

 — SIGNATURE

7/12/00 — DATE

244

G-4

Type 1 Facility Checklist

Type 1 Facility Checklist

TYPE 1 FACILITY BUILDING T-903A

CURRENT LANDLORD: RFCSS

DATE OF COMPLETION: 02/29/00

ITEM	YES	NO
Does the facility contain radiological postings?		X
Does the facility contain chemical postings?		X
Are there any installed hazards?		X
Is there any information that indicates this facility was Impacted by DOE chemical and/or radiological operations?		X
Are there RCRA units within the facility		X
Is there a history of the building available?	X	
Is there any equipment/furniture left in the facility?		X
Is there a future mission identified for the facility?		X
Will the facility be left unsecured after it is vacated?		X

If any answer to any of the above questions is "Yes", complete the following questions and complete the "graded" PEP in accordance with Chapter 2.

Note: An answer of "Yes" to any question, specifically one dealing with hazards, ***may*** *indicate the facility is not a Type 1 Facility. Check with the D&D Programs office.*

If the answer to all question is "No" complete the "graded" PEP in accordance with Chapter 2.

1. List the Radiological Hazards, location, and quantity:

   Based on the historical data found and interviews taken there are no hazards in this trailer.

2. List the Chemical Hazards, location, and quantity:

   None. Based on historical data and interviews taken there are no chemical hazards in this trailer. There may be lead in the paint used in this trailer.

3. List the Physical Hazards:

   NONE

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Appendix H, General Group C Survey and Sampling Documentation

- Chain-of-Custody (for Groups B & C samples)
- MARSSIM Pre-Survey Calculations for Survey Frequency
- MARSSIM Post-Survey Calculation for Survey Frequency (typical)
- Verification of OASIS Results – Offsite (GEL) Alpha Spectroscopy Results

RMRS [redacted] RFETS

CHAIN OF CUSTOD[redacted]MPLE ANALYSIS REQUEST

[redacted]A1148#001

Sampler(s) (time/date)	Contact/Requester SZYDLOWSKI, TOM / NICK DEMOS	Telephone No. 8165 / 4605	MSIN FAX
RIN 00A1148	Sampling Origin B&C Facilities	Purchase Order/Charge Code NG2200C1	
Project Title	Logbook No. NA	Ice Chest No. NA	Temp. NA
To (Lab) Building 559 Laboratory	Method of Shipment Hand Carry	Bill of Lading/Air Bill No. NA	
Protocol	Related COC (if any) NA	PRE	

POSSIBLE SAMPLE HAZARDS/REMARKS
Are acid preserved samples DOT hazardous per 40 CFR Part 136.3 Table II? YES or NO
Are other known hazardous substances present? YES or NO
** ** **

SCREENING REQUIRED ☐

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☐ No ☐
(TRAILERS AROUND THE PLANTSITE)
(METAL DISKS)

Bottle No.	Customer Number	Matrix	Date	Time	Location	Container (size/type/quantity)	Sample Analysis	Preservative; Packing
00A1148-003.001	T-4R/QC	SOLID	3/28/00	0820	T861A	1-SAMPLE / P/G /1	PA04A017 (Alpha Spec Qualitative) [Routine]	None / None
00A1148-006.001	M-1R/QC	SOLID	3/27/00	1447	T881B	1-SAMPLE / P/G /1	PA04A017 (Alpha Spec Qualitative) [Routine]	None / None
00A1148-009.001	F-20R/QC	SOLID	3/28/00	0850	T883A	1-SAMPLE / P/G /1	PA04A017 (Alpha Spec Qualitative) [Routine]	None / None
00A1148-012.001	F-20R/QC	SOLID	3/28/00	0908	T883B	1-SAMPLE / P/G /1	PA04A017 (Alpha Spec Qualitative) [Routine]	None / None
00A1148-015.001	A-7R/QC	SOLID	3/28/00	0932	T883C	1-SAMPLE / P/G /1	PA04A017 (Alpha Spec Qualitative) [Routine]	None / None
00A1148-018.001	S-1R/QC	SOLID	3/27/00	1415	T439D	1-SAMPLE / P/G /1	PA04A017 (Alpha Spec Qualitative) [Routine]	None / None
00A1148-021.001	A-2R/QC	SOLID	3/28/00	1243	T771D	1-SAMPLE / P/G /1	PA04A017 (Alpha Spec Qualitative) [Routine]	None / None

Relinquished By:	Date/Time	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	4/4/00 1445	LB Johnson	4/4/00 1445	LB Johnson	4/25/00 0815	[signature]	4/25/00 0815
[signature]	4/25/00 1324	Cheryl A Hess	4-25-00 1324				

FAX
APR 4

FINAL SAMPLE DISPOSITION — Disposal Method (e.g., returned to customer, disposed of per lab procedure, used in analytical process) — Disposed By

RMRS [redacted]

CHAIN OF CUSTODY/[redacted]MPLE ANALYSIS REQUEST

C.O.C. # [redacted]148#001

Page 2 of 2

RIN 00A1148

Contact/Requestor SZYDLOWSKI, TOM

Telephone No. 8165 MSIN FAX

Bottle No.	Customer Number	Matrix	Date	Time	Location	Container (size/type/quantity)	Sample Analysis	Preservative; Packing
00A1148-024.001	C-1R/QC	SOLID	3/28/00	1423	T331	1-SAMPLE / P/G /1	PA04A017 (Alpha Spec Qualitative) [Routine]	None. None

LABORATORY USE ONLY

	Initials/Date	Y/N
TID/Intact:	KA	
Custody Seal Intact:	~~KA~~ 4/3/00	Y
Labels/COC Agree:	4/3/00	Y
~~TID # (if applicable):~~	~~KA~~	
TID Removed:	KA	

Relinquished By:	Date/Time 4.4.00/1445	Received By:	Date/Time 4/4/00 1445	Relinquished By:	Date/Time 4/25/00 0815	Received By:	Date/Time 4.25.00 0815
Relinquished By:	Date/Time 4.25.00/1324	Received By:	Date/Time 1324 4/25/00	Relinquished By:	Date/Time	Received By: APR 4 2000	Date/Time
Relinquished By:	Date/Time	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time
Relinquished By:	Date/Time	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time

FINAL SAMPLE DISPOSITION — Disposal Method (e.g., returned to customer, disposed of per lab procedure, used in analytical process) — Disposed By — Date/Time

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RMRS [redacted] RFETS

CHAIN OF CUSTODY [redacted] MPLE ANALYSIS REQUEST

C.O.C. # [redacted] 1148#003

Page 1 of 4

Sampler(s) (time/date)	**Contact/Requester** SZYDLOWSKI, TOM	**Telephone No.** 8165 **MSIN** **FAX**
RIN 00A1148	**Sampling Origin**	**Purchase Order/Charge Code** NG2200C1
Project Title 771 OU 4-12-00	**Logbook No.**	**Ice Chest No.** **Temp.**
To (Lab) Building ~~559~~ Laboratory	**Method of Shipment**	**Bill of Lading/Air Bill No.**
Protocol	**Related COC (if any)**	**PRE**

POSSIBLE SAMPLE HAZARDS/REMARKS
Are acid preserved samples DOT hazardous per 40 CFR Part 136.3 Table II? YES or NO
Are other known hazardous substances present? YES or NO
** ** **

SCREENING REQUIRED ☐

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☐ No ☐

Bottle No.	Customer Number	Matrix	Date	Time	Location	Container (size/type/quantity)	Sample Analysis	Preservative ; Packing
00A1148-001.001	I-4R	SOLID	3/28/00	0835	T881A	1-SAMPLE / P/G /1	PA04A017 (Alpha Spec Qualitative) [Routine]	None None
00A1148-002.001	T-4R	SOLID	3/28/00	0824	T881A	1-SAMPLE / P/G /1	PA04A017 (Alpha Spec Qualitative) [Routine]	None None
00A1148-004.001	G-3R	SOLID	3/27/00	1455	T881B	1-SAMPLE / P/G /1	PA04A017 (Alpha Spec Qualitative) [Routine]	None None
00A1148-005.001	M-1R	SOLID	3/27/00	1445	T881B	1-SAMPLE / P/G /1	PA04A017 (Alpha Spec Qualitative) [Routine]	None None
00A1148-007.001	H-5R	SOLID	3/28/00	0856	T883A	1-SAMPLE / P/G /1	PA04A017 (Alpha Spec Qualitative) [Routine]	None None
00A1148-008.001	F-20R	SOLID	3/28/00	0847	T883A	1-SAMPLE / P/G /1	PA04A017 (Alpha Spec Qualitative) [Routine]	None None
00A1148-010.001	H-19R	SOLID	3/28/00	0915	T883B	1-SAMPLE / P/G /1	PA04A017 (Alpha Spec Qualitative) [Routine]	None None

Relinquished By: / Date/Time	Received By: / Date/Time	Relinquished By: / Date/Time	Received By: / Date/Time
[signature] 4/13/00 1510	[signature] 4/13/00 15:10		
[signature] 5/11/00 1510	[signature] 5/11/00 [signature] 1510		
	5/11/00		

FINAL SAMPLE DISPOSITION *Disposal Method (e.g., returned to customer, disposed of per lab procedure, used in analytical process)* Disposed By Date/Time

250

RMRS

CHAIN OF CUSTODY [redacted] MPLE ANALYSIS REQUEST

C.O.C. # [redacted] 1148#003

RIN	Contact/Requestor	Telephone No.	MSIN	FAX
00A1148	SZYDLOWSKI, TOM	8165		

Bottle No.	Customer Number	Matrix	Date	Time	Location	Container (size/type/quantity)	Sample Analysis	Preservative / Packing
00A1148-011.001	F-20R	SOLID	3/28/00	0905	T883B	1-SAMPLE / P/G /1	PA04A017 (Alpha Spec Qualitative) [Routine]	None None
00A1148-013.001	H-11R	SOLID	3/28/00	0942	T883C	1-SAMPLE / P/G /1	PA04A017 (Alpha Spec Qualitative) [Routine]	None None
00A1148-014.001	A-7R	SOLID	3/28/00	0930	T883C	1-SAMPLE / P/G /1	PA04A017 (Alpha Spec Qualitative) [Routine]	None None
00A1148-016.001	F-7R	SOLID	3/27/00	1423	T439D	1-SAMPLE / P/G /1	PA04A017 (Alpha Spec Qualitative) [Routine]	None None
00A1148-017.001	S-1R	SOLID	3/27/00	1400	T439D	1-SAMPLE / P/G /1	PA04A017 (Alpha Spec Qualitative) [Routine]	None None
00A1148-019.001	O-1R	SOLID	3/28/00	1248	T771D	1-SAMPLE / P/G /1	PA04A017 (Alpha Spec Qualitative) [Routine]	None None
00A1148-020.001	A-2R	SOLID	3/28/00	1240	T771D	1-SAMPLE / P/G /1	PA04A017 (Alpha Spec Qualitative) [Routine]	None None
00A1148-022.001	H-1R	SOLID	3/28/00	1430	T331	1-SAMPLE / P/G /1	PA04A017 (Alpha Spec Qualitative) [Routine]	None None
00A1148-023.001	C-1R	SOLID	3/28/00	1420	T331	1-SAMPLE / P/G /1	PA04A017 (Alpha Spec Qualitative) [Routine]	None None
00A1148-025.001	H-2R	SOLID	3/29/00	1415	T750E	1-SAMPLE / P/G /1	PA04A017 (Alpha Spec Qualitative) [Routine]	None None
00A1148-026.001	E-3R	SOLID	3/28/00	1405	T750E	1-SAMPLE / P/G /1	PA04A017 (Alpha Spec Qualitative) [Routine]	None None

Relinquished By: / Date/Time	Received By: / Date/Time	Relinquished By: / Date/Time	Received By: / Date/Time
[signature] 4.13.00 1170	C Bianconi 4/13/00 15:10		
C Bianconi 5/11/00 1510	[signature] 5.11.00 1510		

FINAL SAMPLE DISPOSITION — Disposal Method (e.g., returned to customer, disposed of per lab procedure, used in analytical process) — Disposed By — Date/Time

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RMRS

CHAIN OF CUSTODY SAMPLE ANALYSIS REQUEST

C.O.C. # 1148#003

RIN	Contact/Requestor	Telephone No.	MSIN	FAX
00A1148	SZYDLOWSKI, TOM	8165		

Bottle No.	Customer Number	Matrix	Date	Time	Location	Container (size/type/quantity)	Sample Analysis	Preservative ; Packing
00A1148-027.001	E-3R/QC	SOLID	3/28/00	1410	T750E	1-SAMPLE / P/G /1	PA04A017 (Alpha Spec Qualitative) [Routine]	None None
00A1148-028.001	L-1N	SOLID	3/28/00	1315	T903A	1-SAMPLE / P/G /1	PA04A017 (Alpha Spec Qualitative) [Routine]	None None
00A1148-029.001	N-2N	SOLID	3/28/00	1310	T903A	1-SAMPLE / P/G /1	PA04A017 (Alpha Spec Qualitative) [Routine]	None None
00A1148-030.001	N-2N/QC	SOLID	3/28/00	1311	T903A	1-SAMPLE / P/G /1	PA04A017 (Alpha Spec Qualitative) [Routine]	None None
00A1148-031.001	O-1R	SOLID	3/28/00	1325	T903A	1-SAMPLE / P/G /1	PA04A017 (Alpha Spec Qualitative) [Routine]	None None
00A1148-032.001	G-3R	SOLID	3/28/00	1319	T903A	1-SAMPLE / P/G /1	PA04A017 (Alpha Spec Qualitative) [Routine]	None None
00A1148-033.001	G-3R/QC	SOLID	3/28/00	1321	T903A	1-SAMPLE / P/G /1	PA04A017 (Alpha Spec Qualitative) [Routine]	None None
00A1148-034.001	A-16R	SOLID	3/28/00	1510	T331A	1-SAMPLE / P/G /1	PA04A017 (Alpha Spec Qualitative) [Routine]	None None
00A1148-035.001	C-13R	SOLID	3/28/00	1500	T331A	1-SAMPLE / P/G /1	PA04A017 (Alpha Spec Qualitative) [Routine]	None None
00A1148-036.001	C-13R/QC	SOLID	3/28/00	1503	T331A	1-SAMPLE / P/G /1	PA04A017 (Alpha Spec Qualitative) [Routine]	None None
00A1148-037.001	H-3R	SOLID	4/5/00	1205	TB595	1-SAMPLE / P/G /1	PA04A017 (Alpha Spec Qualitative) [Routine]	None None

Relinquished By: / Date/Time	Received By: / Date/Time	Relinquished By: / Date/Time	Received By: / Date/Time
4.13.00 1510	4/13/00 15:10		
5/11/00 1510	5-11-00 1510		

FINAL SAMPLE DISPOSITION — Disposal Method (e.g., returned to customer, disposed of per lab procedure, used in analytical process) — Disposed By — Date/Time

* event PA04A017 only

RMRS

CHAIN OF CUSTODY / SAMPLE ANALYSIS REQUEST

C.O.C. # 1148#003

Page 4 of 4

RIN	Contact/Requestor	Telephone No.	MSIN	FAX
00A1148	SZYDLOWSKI, TOM	8165		

Bottle No.	Customer Number	Matrix	Date	Time	Location	Container (size/type/quantity)	Sample Analysis	Preservative / Packing
00A1148-038.001	H-3R/QC	SOLID	4/5/00	1207	TB595	1-SAMPLE / P/G /1	PA04A017 (Alpha Spec Qualitative) [Routine]	None None
00A1148-039.001	E-5R	SOLID	4/5/00	1211	TB595	1-SAMPLE / P/G /1	PA04A017 (Alpha Spec Qualitative) [Routine]	None None

Relinquished By: / Date/Time	Received By: / Date/Time	Relinquished By: / Date/Time	Received By: / Date/Time
[signature] 4.13.00 1510	CJ Brunson 4/13/00 1510		
CJ Brunson 5/11/00 1510	[signature] 5-11-00 1510		

FINAL SAMPLE DISPOSITION — Disposal Method (e.g., returned to customer, disposed of per lab procedure, used in analytical process) — Disposed By — Date/Time

053

RMI [redacted]

RFETS

CHAIN OF CUSTODY [redacted] IPLE ANALYSIS REQUEST

C.O.C. # 00[redacted]8#002

Page 1 of 1

Sampler(s) DEMOS / NEHIL (time/date)	Contact/Requester SZYDLOWSKI, TOM / NICK DEMOS	Telephone No. 8165 / 4605 MSIN FAX
RIN 00A1148	Sampling Origin B&C FACILITIES	Purchase Order/Charge Code NG2200C1
Project Title #B&C CHARACTERIZATION	Logbook No.	Ice Chest No. N/A Temp. NA
To (Lab) General Engineering	Method of Shipment	Bill of Lading/Air Bill No.
Protocol	Related COC (if any) 00A1148 #001	PRE 000515-00881-001

POSSIBLE SAMPLE HAZARDS/REMARKS
Are acid preserved samples DOT hazardous per 40 CFR Part 136.3 Table II? YES or (NO)
Are other known hazardous substances present? YES or (NO)
** ** **

SCREENING REQUIRED ☐

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☐ No ☐
The matrix investigation does not need to be performed on these samples They are the same matrix as RIN#00A1057.

Bottle No.	Customer Number	Matrix	Date	Time	Location	Container (size/type/quantity)	Sample Analysis	Preservative ; Packing
00A1148-015.002	A-7R/QC	SOLID	3/28/00	0932	T883C	1-SAMPLE / P /1	TR01A187 (Po-210, Pu, Am, U) [21dS]	None None
00A1148-019.002	O-1R	SOLID	3/28/00	1248	T771D	1-SAMPLE / P /1	TR01A187 (Po-210, Pu, Am, U) [21dS]	None None
00A1148-031.002	O-1R	SOLID	3/28/00	1325	T903A	1-SAMPLE / P /1	TR01A187 (Po-210, Pu, Am, U) [21dS]	None None
00A1148-034.002	A-16R	SOLID	3/28/00	1510	T331A	1-SAMPLE / P /1	TR01A187 (Po-210, Pu, Am, U) [21dS]	None None

L. Miller 5/15/00

Relinquished By:	Date/Time	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	5/15/00 1320	L. Miller	5-15-00 1320				

FINAL SAMPLE DISPOSITION Disposal Method (e.g., returned to customer, disposed of per lab procedure, used in analytical process) Disposed By Date/Time

P. 02 FAX NO. 303 966 2035 ANALYTICAL SUPPORT MAY-11-00 THU 12:39

0554

RMRS

RFETS

CHAIN OF CUSTODY / SAMPLE ANALYSIS REQUEST

C.O.C. # 1148#004

Page 1 of 1

Sampler(s) (time/date)	Contact/Requester SZYDLOWSKI, TOM	Telephone No. 8165 MSIN FAX
RIN 00A1148	Sampling Origin	Purchase Order/Charge Code NG2200C1
Project Title 771 DM 6/1/00	Logbook No.	Ice Chest No. CAS 122199 Temp.
To (Lab) Building ~~559~~ Laboratory	Method of Shipment	Bill of Lading/Air Bill No.
Protocol	Related COC (if any)	PRE

POSSIBLE SAMPLE HAZARDS/REMARKS
Are acid preserved samples DOT hazardous per 40 CFR Part 136.3 Table II? YES or NO
Are other known hazardous substances present? YES or NO
** ** **

SCREENING REQUIRED ☐

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☐ No ☐

Bottle No.	Customer Number	Matrix	Date	Time	Location	Container (size/type/quantity)	Sample Analysis	Preservative ; Packing
00A1148-040.001	D2R1	SOLID	6/1/00		B331A	1-SAMPLE / P/G /1	PA04A017 (Alpha Spec Qualitative) [Routine]	None None
00A1148-041.001	D2RQC	SOLID	6/1/00		B331A	1-SAMPLE / P/G /1	PA04A017 (Alpha Spec Qualitative) [Routine]	None None
00A1148-042.001	N/A	SOLID	N/A	N/A	N/A	1-SAMPLE / P/G /1	PA04A017 (Alpha Spec Qualitative) [Routine]	None None
						N		
						A		

Relinquished By:	Date/Time	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time
	6/1/00 1245		6/1/00 1245				
	6/5/00 1356		6/5/00 1358				
	6/5/00 1411		6/5/00 1411				

FINAL SAMPLE DISPOSITION Disposal Method (e.g., returned to customer, disposed of per lab procedure, used in analytical process) Disposed By Date/Time

255

SURVEY PACKAGE CALCULATION WORKSHEET

Package ID: 2000-01	**Building:** T771D
Survey Area: Not Applicable	**Survey Unit:** Interior
Survey Unit Description: This trailer was placed at its current location in 1969. This unit is 12'x40'x 10' high.	

X **Total Surface Activity**	☐ **Media Surface Activity**
X **Removable Surface Activity**	☐ **Volumetric Surface Activity**

Step 1: Calculate the relative shift Δ/σ_s.

$\Delta/\sigma_s = (DCGL\text{-}LBGR)/\sigma_s$

$\Delta/\sigma_s = 1.0$

where:
A value of 1.0 was chosen since no survey data is available and Δ/σ_s may vary between 1.0 and 3.0. The use of 1.0 maximizes the number of surveys required.

Step 2: Determine Sign p using the calculated relative shift and Table 7-1. Sign p is the estimated probability that a random measurement from the survey unit will be less than the $DCGL_w$ when the survey unit median is actually at the LBGR. Sign p = 0.841345

Step 3: Determine Decision Error Percentiles for $Z_{1-\alpha}$ and $Z_{1-\beta}$ and the selected decision error levels α and β. Typical (α) and (β) values used at RFETS are 0.05 and 0.05 respectively. This yields a $Z_{1-\alpha}$ and $Z_{1-\beta}$ value of 1.645 and 1.645 respectively.

Step 4: Calculate Number of Data Points (N) for Sign Test using the following equation:

$$N = \frac{(Z_{1-\alpha} + Z_{1-\beta})^2}{4(Sign\,p - 0.5)^2} = 23.22$$

Step 5: Increase the number of data points by 20% to ensure sufficient power of the tests and to allow for possible data losses. 23.22*1.2 = 27.86

Conclusion:

A total of 28 data points will be needed to satisfy MARSSIM statistical requirements.

RICK ROBERTS	[redacted]		2/3/00
Project RE Printed Name		Project RE Signature	Date
H.B. ESTABROOKS			2/3/00
RESS RE Printed Name		RESS RE Signature	Date

20 of 212

Removable Activity (dpm/100 cm^2) Alpha
0.6
0.0
3.3
0.6
4.5
1.8
-0.9
3.0
0.3
2.1
1.5
1.8
2.1
-1.5
0.3
-0.9
3.0
1.8
0.6
-1.5
1.8
2.1
3.0
1.8
2.1
-1.5
3.3
-0.9

Survey Area - N/A
Survey Unit - Exterior
Building - T331A
Survey Unit Description - Roof and walls of Trailer T331A
Removable Contamination Data Sheet

$DCGL_W$	20	dpm/100 cm^2
n	28	
Mean	1.2	dpm/100 cm^2
Std Dev	1.7	dpm/100 cm^2

No measurement exceeds the $DCGL_W$

357

Removable Activity (dpm/100 cm^2) Beta
0.8
10.8
29.2
14.8
12.8
-24.8
-23.2
46.8
-2.8
16.8
2.8
-2.8
-7.2
30.8
15.2
-5.2
12.8
11.2
4.8
-1.2
-12.8
-1.2
4.8
-14.8
8.8
12.8
5.2
-17.2

Survey Area - N/A
Survey Unit - Exterior
Building - T331A
Survey Unit Description - Roof and walls of Trailer T331A
Removable Contamination Data Sheet

$DCGL_W$	**1000**	**dpm/100 cm^2**
n	**28**	
Mean	**4.6**	**dpm/100 cm^2**
Std Dev	**16.1**	**dpm/100 cm^2**

No measurement exceeds the $DCGL_W$

Total Surface Activity
(dpm/100 cm^2) Alpha

172.5
143.2
149.6
117.3
91.4
97.8
110.5
143.7
127.1
146.6
127.1
41.6
17.9
35.8
3.1
-2.9
22.3
31.9
-22.3
-6.2
0
9.3
-12.1
12.6
43.3
18.6
27.9
24.7

Survey Area - N/A
Survey Unit - Exterior
Building - T331A
Survey Unit Description - Roof and walls of Trailer T331A
Total Surface Activity Data Sheet

$DCGL_W$	100	dpm/100 cm^2
n	28	
Mean	59.7	dpm/100 cm^2
Std Dev	61.0	dpm/100 cm^2

Nine measurement exceeds the $DCGL_W$
Eleven measurement exceeds 75% of the $DCGL_W$

Precision

Location	C_1	C_2	C_1-C_2	$(C_1+C_2)/2$	RPD
A-1N	41.6	32.3	9.3	36.95	25.16915
O-1E	-6.2	32.7	-38.9	13.25	-293.5849
C-2W	-12.1	38.6	-50.7	13.25	-382.6415
A-1W	0.0	29.3	-29.3	14.65	-200
C-1W	9.3	52.3	-43	30.8	-139.6104

Precision (RPD) is out of specification due to low value survey measurements

Recalculated N

$\Delta/\sigma_s = (DCGL-LBGR)/\sigma_s$
$\Delta/\sigma_s = (100-50)/61.0$
$\Delta/\sigma_s = 0.8$
Sign p = 0.788145
N = 32.59
32.59*1.2 = 13.06
N = 39

Note: Where TSA results are elevated due to Po-210 concentrations, the Post Survey calculations can indicate that more survey points are needed. These numbers are artificially high because the elevated results are due to Po-210, and not due to DOE-added radionuclides. Consequently, where the presence of NORM (specifically Po-210) is confirmed through alpha spec analysis, Post Survey Statistics Calculations that use survey (TSA) results are not applicable as a means of checking TSA survey frequencies. Adequate survey frequency would be indicated if results attained from analytical samples were used instead.

359

Total Surface Activity (dpm/100 cm^2) Beta
-30
-74
17
-51
249
189
138
0
37
-20
-303
-158
-53
-372
-481
171
-184
-60
37
13
-428
47
-63
80
301
170
177
40

Survey Area - N/A
Survey Unit - Exterior
Building - T331A
Survey Unit Description - Roof and walls of Trailer T331A
Total Surface Activity Data Sheet

$DCGL_W$	**5000**	**dpm/100 cm^2**
n	**28**	
Mean	**-21.8**	**dpm/100 cm^2**
Std Dev	**194.4**	**dpm/100 cm^2**

No measurement exceeds the $DCGL_W$
No measurement exceeds 75% of the $DCGL_W$

Precision

Location	C_1	C_2	C_1-C_2	$(C_1+C_2)/2$	RPD
A-1N	-158	77	-235	-40.5	580.2469
O-1E	13	3	10	8	125
C-2W	-63	158	-221	47.5	0
A-1W	-428	111	-539	-158.5	340.0631
C-1W	47	-266	313	-109.5	-285.8447

Precision (RPD) is out of specification due to low value survey measurements

Recalculated N

Δ/σ_s = (DCGL-LBGR)/σ_s
Δ/σ_s = (5000-2500)/194.4
Δ/σ_s = 12.86 (default to 3)
Sign p = 0.998650
N = 10.88
10.88*1.2 = 13.05
N = 14

OASIS Direct Analysis Measurement Result Information

The samples listed below were analyzed using the Oxford Alpha Spectroscopy Integrated System (OASIS) at the Rocky Flats Environmental Technology Site. These samples were counted directly in the alpha spectrometer chambers, without chemical preparation. The technical basis for this type of analysis has been established in TBD-00143, Direct Analysis of Alpha Emitters Using the Oxford Alpha Spectroscopy Integrated System (OASIS), and TBD-00153, Use of the OASIS for Direct Differentiation between Po-210 and DOE-enhanced Materials.

In order to maintain the quality of OASIS measurements, the instrument is performance tested in accordance with Operations Order OO-771-228, Direct Analysis of Alpha Emitters Using the Oxford Alpha Spectroscopy Integrated System (OASIS). This Operations Order establishes the periodicity of performance test and background measurements, and the criteria against which these measurements are judged. All samples are counted by RCTs or REs qualified per JPM 036-119-53, Direct Analysis of Alpha Emitters Using the Oxford Alpha Spectroscopy Integrated System (OASIS) and approved by qualified REs.

A sample of the calibration and performance test data is attached for your review. All such data are maintained by the OASIS analysts and are available for your perusal.

The samples were 1-in coupons with an area of 4.82 cm^2. Calculation of the activity per 100 cm^2 was performed assuming that samples were representative. Errors are quoted at one standard deviation, accounting for all associated analytical uncertainties. Uranium results refer to the presence of U-238, U-234, or U-235.

Sample Number	OASIS dpm ± 1s		dpm/100cm²±1s	
00A1148-001.001	2.53	0.22	52.5	4.5
00A1148-002.001	1.83	0.12	37.8	2.6
00A1148-003.001	1.11	0.10	23.0	2.0
00A1148-004.001	2.90	0.24	60.0	4.9
00A1148-005.001	5.87	0.33	121.6	6.8
00A1148-006.001	3.54	0.16	73.3	3.4
00A1148-007.001	3.44	0.25	71.4	5.2
00A1148-008.001	5.93	0.22	122.8	4.5
00A1148-009.001	3.73	0.17	77.4	3.5
00A1148-010.001	4.13	0.27	85.7	5.7
00A1148-011.001	4.33	0.28	89.8	5.8
00A1148-012.001	5.58	0.21	115.7	4.4
00A1148-013.001	0.04	0.05	0.9	1.1
00A1148-014.001	7.91	0.39	163.9	8.1
00A1148-015.001	6.94	0.25	143.8	5.2
00A1148-016.001	7.21	0.38	149.4	7.8
00A1148-017.001	5.12	0.32	106.2	6.6
00A1148-018.001	3.37	0.25	69.9	5.3
00A1148-019.001	11.76	0.46	243.6	9.6
00A1148-020.001	8.92	0.40	184.8	8.4
00A1148-021.001	9.89	0.24	204.9	4.9
00A1148-022.001	0.13	0.08	2.7	1.6
00A1148-023.001	0.96	0.14	19.8	2.9

00A1148-024.001	3.27	0.16	67.7	3.3
00A1148-025.001	7.58	0.37	157.1	7.7
00A1148-026.001	10.11	0.45	209.6	9.3
00A1148-027.001	10.40	0.46	215.6	9.5
00A1148-028.001	0.62	0.12	12.8	2.4
00A1148-029.001	2.87	0.15	59.5	3.1
00A1148-030.001	3.08	0.16	63.8	3.2
00A1148-031.001	10.33	0.46	214.1	9.4
00A1148-032.001	3.31	0.25	68.6	5.2
00A1148-033.001	6.06	0.22	125.6	4.5
00A1148-034.001	10.72	0.31	222.2	6.3
00A1148-035.001	9.53	0.42	197.5	8.8
00A1148-036.001	7.51	0.38	155.6	7.9
00A1148-037.001	2.37	0.14	49.1	2.8
00A1148-038.001	1.88	0.08	38.9	1.7
00A1148-039.001	2.21	0.09	45.7	1.8

Sample ID	Identified Peaks				Detection Sensitivity (dpm/100 cm²)			
	Pu+Am	Pu-239	Am-241	U	Pu+Am	Pu-239	Am-241	U
00A1148-001.001	No	No	No	No	79	70	10	79
00A1148-002.001	No	No	No	No	32	28	4	32
00A1148-003.001	No	No	No	No	30	26	4	30
00A1148-004.001	No	No	No	No	79	70	10	79
00A1148-005.001	No	No	No	No	79	70	10	79
00A1148-006.001	No	No	No	No	30	26	4	30
00A1148-007.001	No	No	No	No	79	70	10	79
00A1148-008.001	No	No	No	No	30	26	4	30
00A1148-009.001	No	No	No	No	30	26	4	30
00A1148-010.001	No	No	No	No	79	70	10	79
00A1148-011.001	No	No	No	No	79	70	10	79
00A1148-012.001	No	No	No	No	30	26	4	30
00A1148-013.001	No	No	No	No	79	70	10	79
00A1148-014.001	No	No	No	No	79	70	10	79
00A1148-015.001	No	No	No	No	34	30	4	34
00A1148-016.001	No	No	No	No	79	70	10	79
00A1148-017.001	No	No	No	No	79	70	10	79
00A1148-018.001	No	No	No	No	79	70	10	79
00A1148-019.001	No	No	No	No	70	61	8	70
00A1148-020.001	No	No	No	No	79	70	10	79
00A1148-021.001	No	No	No	No	17	15	2	17
00A1148-022.001	No	No	No	No	79	70	10	79
00A1148-023.001	No	No	No	No	79	70	10	79
00A1148-024.001	No	No	No	No	30	26	4	30
00A1148-025.001	No	No	No	No	79	70	10	79
00A1148-026.001	No	No	No	No	79	70	10	79
00A1148-027.001	No	No	No	No	79	70	10	79
00A1148-028.001	No	No	No	No	79	70	10	79

00A1148-029.001	No	No	No	No	30	26	4	30
00A1148-030.001	No	No	No	No	30	26	4	30
00A1148-031.001	No	No	No	No	79	70	10	79
00A1148-032.001	No	No	No	No	79	70	10	79
00A1148-033.001	No	No	No	No	30	26	4	30
00A1148-034.001	No	No	No	No	30	26	4	30
00A1148-035.001	No	No	No	No	75	66	9	75
00A1148-036.001	No	No	No	No	79	70	10	79
00A1148-037.001	No	No	No	No	30	26	4	30
00A1148-038.001	No	No	No	No	12	10	1	12
00A1148-039.001	No	No	No	No	12	10	1	12

Approved by:

C J Bianconi 5/10/00

C. J. Bianconi, CHP
B771 Radiological Engineering
303.966.7262
303.212.5706 dp

OASIS Direct Analysis Measurement Result Information

Two samples were received on 6/1/2000. The samples were 1-in coupons with an area of 4.82 cm^2.

The samples were analyzed using the Oxford Alpha Spectroscopy Integrated System (OASIS) at the Rocky Flats Environmental Technology Site. These samples were counted directly in the alpha spectrometer chamber, without chemical preparation. The basis for this type of analysis has been established in TBD-00143, Direct Analysis of Alpha Emitters Using the Oxford Alpha Spectroscopy Integrated System (OASIS), and TBD-00153, Use of the OASIS for Direct Differentiation between Po-210 and DOE-added Materials.

In order to maintain the quality of OASIS measurements, the instrument is performance tested in accordance with Operations Order OO-771-228, Direct Analysis of Alpha Emitters Using the Oxford Alpha Spectroscopy Integrated System (OASIS). This Operations Order establishes the periodicity of performance test and background measurements, and the criteria against which these measurements are judged. All samples are counted by RCTs or REs qualified per JPM 036-119-53, Direct Analysis of Alpha Emitters Using the Oxford Alpha Spectroscopy Integrated System (OASIS), and approved by qualified REs.

Calculation of the activity per 100 cm^2 was performed assuming that the activity was homogeneously distributed. Errors are quoted at two standard deviations in the final results, accounting for all associated analytical uncertainties. Uranium results refer to the presence of U-238, U-234, or U-235.

Sample ID	OASIS dpm ± 1s		dpm/100cm^2 ± 2s	
00A1148-040.001 D2R1	24.3	0.5	504	19
00A1148-041.001 D2RQC	30.7	0.9	637	35

Sample ID	Count time (seconds)	Detection Sensitivity dpm/100cm^2			
		Pu+Am	Pu-239	Am-241	U
00A1148-040.001 D2R1	43200	20	17	2	20
00A1148-041.001 D2RQC	10800	79	70	10	79

Peaks for Pu-239, Am-241, and uranium were not identified in the spectra.

Approved by:

C. J. Bianconi, CHP
B771 Radiological Engineering
303.966.7262
303.212.5706 dp

2104

00A1148
Data Package Narrative

Four waste samples, under the Subcontract Number KH700331EP6, were received on May 15, 2000. Four samples were analyzed by Alpha Spectroscopy for Polonium-210, Plutonium 239/240, Uranium-233/234,235,238, and Americium 241.

- Analytical Method: EPI A-011 (Alpha Spec)
- Matrix Interferences: There are no matrix interferences to report.
- QC Deficiencies: There were no deficiencies.
- Hold Times: All samples were analyzed within the required holding time.
- RDLs: There were no failed detection limits.
- Reanalysis Information: There were no reanalysis of the samples.
- Deviations from SOP: See following page.

Comments:

1. RC01CAL_EPI_3-JUN-2000, RC01CAL_EPI_4-JUN-2000 correspond to RC01CAL_EPI_01JUN2000.
2. The following samples did not meet the FWHM requirement of < 80 keV.

1000060362_PU	94 keV
1000060364_PU	92 keV
1000061142_UU	85 keV

3. Sample 00A1148-031.002, 00A1148-034.002 and QC 1000061142 were recounted due to failed yield.

Rocky Flats

Sample QC Results Summary
6/20/00

[redacted]ch # : 27172
RIN 00A1148
Line Item Code: TR01A187
Matrix: Misc. solid

KHCO ID #	GEL ID #	Analysis	Result pCi/g	2sigma Error pCi/g	MDA pCi/g	RDL pCi/g	Tracer Yield %
00A1148-015.002	25798001	Polonium-210	2.76E+00	8.17E-01	1.70E-01	1.00	68.72
00A1148-019.002	25798002	Polonium-210	2.74E+00	5.74E-01	1.56E-01	1.00	46.74
00A1148-031.002	25798003	Polonium-210	3.80E+00	8.39E-01	2.84E-01	1.00	54.27
00A1148-034.002	25798004	Polonium-210	5.07E+00	1.26E+00	2.22E-01	1.00	57.88
1000060356	Blank	Polonium-210	5.39E-02	8.61E-02	1.53E-01	1.00	49.73
1000061844	Duplicate 00A1057-002.001	Polonium-210	2.47E+00	5.60E-01	1.65E-01	1.00	70.11
1000060358	LCS	Polonium-210	1.37E+01	1.12E+00	1.73E-01	1.00	59.83

LCS recovery:

	Nom. Conc.	Recovery:
[redacted]210	15.4	89%

Equivalency:
Po-210 F/E = 1.319

[redacted]

General Engineering Labs, Inc.

2116

019

Sample QC Results Summary
6/13/00

[redacted]ich # : 27173
RIN 00A1148
Line Item Code: TR01A187
Matrix: Misc. solid

KHCO ID #	GEL ID #	Analysis	Result pCi/g	2sigma Error pCi/g	MDA pCi/g	RDL pCi/g	Tracer Yield %
00A1148-015.002	25798001	Americium-241	1.09E-01	9.57E-02	5.92E-02	0.30	81.49
00A1148-019.002	25798002	Americium-241	4.20E-02	3.72E-02	4.51E-02	0.30	89.13
00A1148-031.002	25798003	Americium-241	0.00E+00	0.00E+00	3.44E-02	0.30	85.19
00A1148-034.002	25798004	Americium-241	1.45E-02	6.08E-02	1.66E-01	0.30	64.68
1000060359	Blank	Americium-241	3.54E-02	4.01E-02	6.37E-02	0.30	86.16
1000061138	Duplicate 00A1148-031.002	Americium-241	0.00E+00	0.00E+00	4.27E-02	0.30	90.73
1000060361	LCS	Americium-241	4.39E+00	3.71E-01	2.21E-02	0.30	95.55

LCS recovery:

	Nom. Conc.	Recovery:
[redacted]m-241	4.5	98%

Equivalency:
Am-241 F/E = 0

Rocky Flats

Sample QC Results Summary
6/13/00

[redacted]ch # : 27174
RIN 00A1148
Line Item Code: TR01A187
Matrix: Misc. solid

KHCO ID #	GEL ID #	Analysis	Result pCi/g	2sigma Error pCi/g	MDA pCi/g	RDL pCi/g	Tracer Yield %
00A1148-015.002	25798001	Plutonium-239/240	3.74E-01	1.68E-01	5.33E-02	0.30	95.36
00A1148-019.002	25798002	Plutonium-239/240	-9.15E-03	1.79E-02	1.13E-01	0.30	39.51
00A1148-031.002	25798003	Plutonium-239/240	-2.74E-02	3.10E-02	1.58E-01	0.30	62.53
00A1148-034.002	25798004	Plutonium-239/240	1.62E-02	6.79E-02	1.85E-01	0.30	59.66
1000060362	Blank	Plutonium-239/240	0.00E+00	0.00E+00	2.62E-02	0.30	81.37
1000061141	Duplicate 00A1148-031.002	Plutonium-239/240	0.00E+00	0.00E+00	6.05E-02	0.30	66.68
1000060364	LCS	Plutonium-239/240	5.04E+00	3.93E-01	2.16E-02	0.30	97.91

LCS recovery:

	Nom. Conc.	Recovery:
[redacted]239/240	5.7	88%

Equivalency:
Pu-239/240 F/E = 0.883

[redacted]

248

Sample QC Results Summary
6/19/00

[redacted]ch #: 27175
RIN 00A1148
Line Item Code: TR01A187
Matrix: Misc. solid

KHCO ID #	GEL ID #	Analysis	Result pCi/g	2sigma Error pCi/g	MDA pCi/g	RDL pCi/g	Tracer Yield %
00A1148-015.002	25798001	Uranium-233/234	3.48E-02	6.21E-02	1.24E-01	1.00	104.52
		Uranium-235	-7.52E-03	4.34E-02	1.41E-01	1.00	104.52
		Uranium-238	6.80E-04	4.04E-02	1.24E-01	1.00	104.52
00A1148-019.002	25798002	Uranium-233/234	1.72E-02	2.85E-02	5.57E-02	1.00	99.31
		Uranium-235	-2.69E-03	2.33E-02	6.66E-02	1.00	99.31
		Uranium-238	-9.39E-03	1.93E-02	6.66E-02	1.00	99.31
00A1148-031.002	25798003	Uranium-233/234	1.54E-02	3.96E-02	8.79E-02	1.00	107.82
		Uranium-235	-1.06E-02	1.46E-02	7.70E-02	1.00	107.82
		Uranium-238	1.04E-02	2.04E-02	2.82E-02	1.00	107.82
00A1148-034.002	25798004	Uranium-233/234	1.18E-01	8.36E-02	9.73E-02	1.00	105.49
		Uranium-235	-6.60E-03	1.30E-02	7.90E-02	1.00	105.49
		Uranium-238	6.56E-02	6.58E-02	9.73E-02	1.00	105.49
[redacted]0060365	Blank	Uranium-233/234	7.74E-04	2.65E-02	6.85E-02	1.00	104.63
		Uranium-235	-1.24E-02	1.21E-02	5.91E-02	1.00	104.63
		Uranium-238	2.58E-04	1.53E-02	4.69E-02	1.00	104.63
1000061142	Duplicate 00A1148-031-002	Uranium-233/234	2.02E-02	2.87E-02	4.87E-02	1.00	97.21
		Uranium-235	-8.22E-03	1.14E-02	6.00E-02	1.00	97.21
		Uranium-238	8.04E-03	2.52E-02	6.00E-02	1.00	97.21
1000060367	LCS	Uranium-233/234	3.89E+00	3.20E-01	6.78E-02	1.00	99.19
		Uranium-235	2.12E-01	7.62E-02	4.97E-02	1.00	99.19
		Uranium-238	4.19E+00	3.32E-01	5.67E-02	1.00	99.19

LCS recovery:

	Nom. Conc.	Recovery:
U-238	4.336	97%

Equivalency:

U-233/234	F/E = 0.098
U-235	F/E = 0.128
U-238	F/E = 0.073

[redacted]

2 of 4

Luker, Steve
From: Salmans, Michael
Sent: Tuesday, June 13, 2000 3:04 PM
To: Luker, Steve
Subject: FW: 00A1148

Mike Salmans
Analytical Services
Phone # 303-966-5057
Pager # 303-212-3149
Fax # 303-966-3578

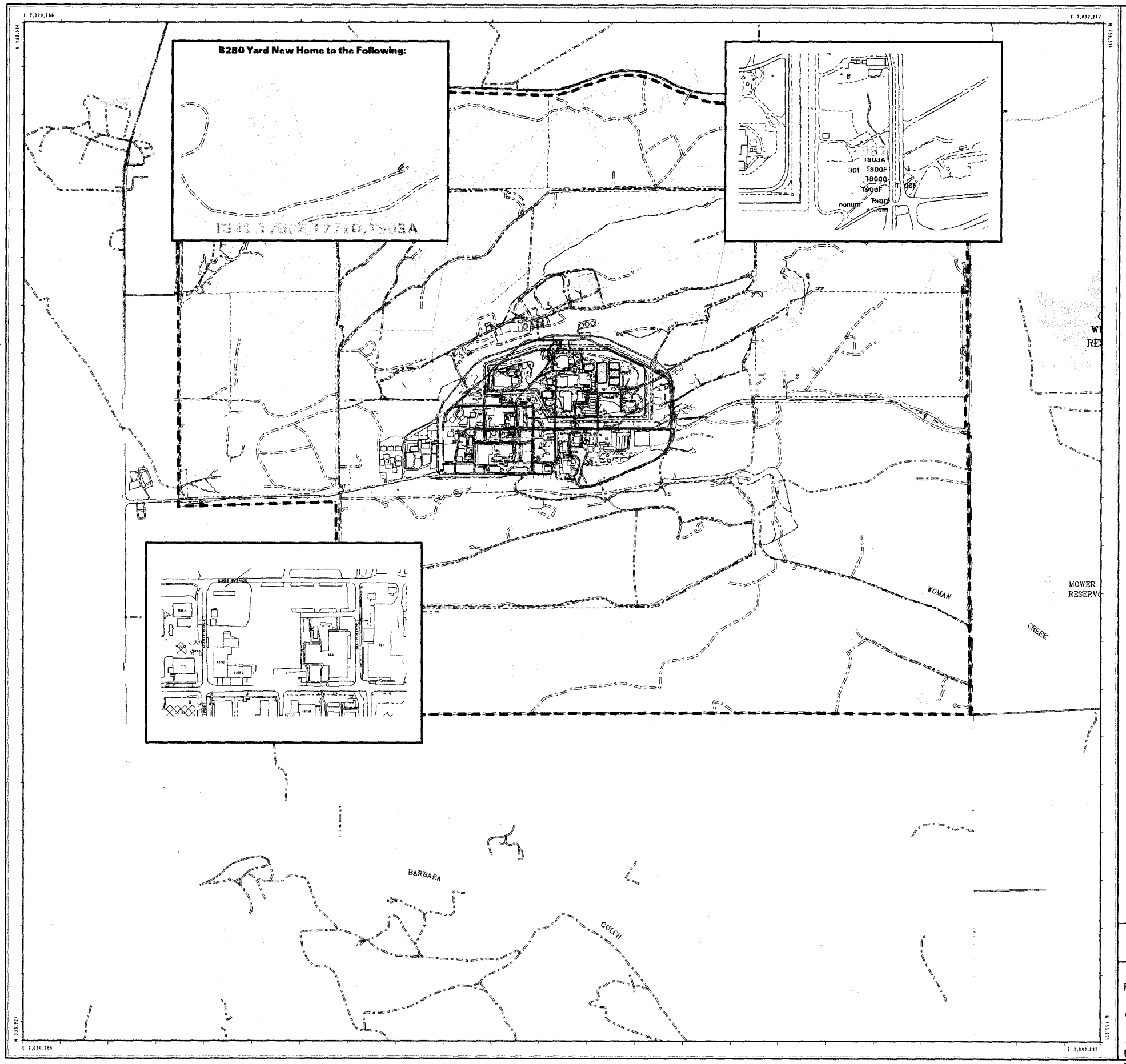
-----Original Message-----

From: **Lee Heath [SMTP:lmh@mail.gel.com]**
Sent: Tuesday, June 13, 2000 2:26 PM
To: Michael Salmans
Subject: 00A1148

The 100% size of these circular disks of metal and rubber were:

(1-4 in order)
0.7182 g
1.8692 g
2.1784 g
0.7303 g (rubber)

270/270



Rocky Flats Environmental Technology Site

Group C Facilities

As of October 30, 2000

EXPLANATION

- Group C RLCR
- Buildings and other structures
- Paved roads fill
- Demolished Buildings
- Solar Evaporation Ponds (SEP)
- Lakes and ponds
- Streams, ditches, or other drainage features
- Fences and other barriers
- Rocky Flats boundary
- Heavy duty paved roads
- Medium duty paved roads
- Light duty paved roads
- Dirt roads

DATA SOURCE BASE FEATURES:
Buildings, fences, hydrography, roads and other structures from 1994 aerial fly-over data captured by EG&G RSL, Las Vegas.
Digitized from the orthophotographs, 1:95

Scale = 1 : 33020
1 inch represents approximately 2752 feet

700 0 1400 2800ft

State Plane Coordinate Projection
Colorado Central Zone
Datum: NAD27

U.S. Department of Energy
Rocky Flats Environmental Technology Site

GIS Dept. 303-966-7707

Prepared by: DynCorp THE ART OF TECHNOLOGY

Prepared for: KAISER-HILL COMPANY

MAP ID: REQ-MAPS

October 30, 2000

N:_Svr w:\projects\fy2k\2k-0343\facility-8-29.aml